

Other Statutory Considerations

This chapter addresses other statutory considerations that must be evaluated pursuant to NEPA and CEQA. The following sections address these specific statutory considerations, with the applicable environmental guidelines noted in parentheses:

- 4.1 – Cumulative Impacts (NEPA and CEQA)
- 4.2 – Growth-Inducing Impacts (NEPA and CEQA)
- 4.3 – Significant Irreversible and Irretrievable Commitments of Resources That Would Result from the Proposed Action (NEPA and CEQA)
- 4.4 – Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity (NEPA)
- 4.5 – Mitigation Monitoring Program for CEQA-Mandated Mitigation (CEQA)
- 4.6 – Significant and Unavoidable Adverse Impacts (CEQA)
- 4.7 – Findings of Fact and Statements of Overriding Consideration (CEQA)

4.1 Cumulative Impacts

4.1.1 LEGAL REQUIREMENTS

Cumulative impacts are the impacts on the environment that result from the incremental impacts of the proposed action when added to the impacts of other past, present, and reasonably foreseeable future actions (14 CCR 15355[b], 40 CFR 1508.7), regardless of what agency (federal or non-federal) or entity undertakes such other actions. These impacts can result from individually minor but collectively significant actions taking place over time.

The president's Council on Environmental Quality (CEQ) NEPA regulations and the State of California's CEQA Guidelines require that the cumulative impacts of a proposed action be addressed in an environmental document when the cumulative impacts are expected to be significant (40CFR 1508.25[a][2], 14 CCR 15130[a]),). When a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," the lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

4.1.2 METHODOLOGY

The analysis of cumulative impacts in this EA/DEIR addresses the cumulative impacts of the Proposed Action, as well as those of the No-Action Alternative, Alternative 1, and Alternative 2. The Proposed Action may be implemented in an interactive manner with other projects. In addition, these other projects may affect the impacts of the Proposed Action.

According to the CEQA Guidelines, the cumulative impacts discussion “should be guided by the standards of practicality and reasonableness.” The CEQA Guidelines require that a cumulative impacts analysis identify related projects, summarize the expected environmental impacts of those related projects, and analyze the cumulative impacts of the proposed and related projects. The geographic scope of the area examined for cumulative impacts is the Trinity River corridor between Lewiston Dam and the confluence of the North Fork Trinity River at Helena, California, because this is the area designated for river restoration activities under the Trinity River Mainstem Fishery Restoration Project FEIS/EIR (U.S. Fish and Wildlife Service et al. 2000a). Downstream of the North Fork Trinity River, mainstem Trinity River flows remain adequate to maintain the alluvial river attributes (see Chapter 3.3 for a description of these attributes) central to restoring the Trinity River fishery. The non-flow measures incorporated into the Flow Evaluation Alternative described in the ROD are specifically intended to restore the 40-mile reach of the mainstem Trinity River below the TRD. In essence, for purposes of analyzing cumulative effects, the lead agencies have determined that the geographic scope to be considered is the 40-mile reach of the mainstem Trinity River below Lewiston Dam. The geographic scope of this EA/DEIR precludes consideration of the impacts of other past, present, and reasonably foreseeable future actions, either upstream of Lewiston Dam or other elements of the CVP outside the Trinity River basin.

The following section summarizes the projects and programs that, along with the Proposed Action, may contribute to cumulative impacts.

4.1.3 RELATED PROJECTS AND PROGRAMS

Fish Habitat Management

Forty-seven mechanical rehabilitation projects were identified in the FEIS/EIR for the Trinity River Mainstem Fishery Restoration Project (U.S. Fish and Wildlife Service et al. 2000a). The project evaluated in this EA/DEIR is the third in a series of channel rehabilitation projects planned by the TRRP. Currently, the TRRP is planning several additional rehabilitation projects, with oversight from the TMC.

The TRRP has two distinct program elements: 1) the Rehabilitation and Implementation Group, which is responsible for project development, engineering, and regulatory compliance, and 2) the Technical Modeling and Analysis Group, which is responsible for project development, monitoring, and integrating activities in an adaptive management framework.

A number of federal, state, and local participants are involved at both the policy and project level. Active participants include Reclamation, USFWS, NMFS, USFS, BLM, the Regional Water Board, DWR, Trinity County, and the Hoopa Valley and Yurok Tribes.

Several projects identified in the ROD have been completed and an additional project (Canyon Creek Suite of Rehabilitation Sites) is expected to be constructed in fall 2006. The first of these projects was the replacement of four bridges between Lewiston and Douglas City to accommodate higher flows in the Trinity River (U.S. Bureau of Reclamation 2003). Construction of the four bridges was completed in 2005. The second of these completed projects was a mechanical channel rehabilitation project at Hocker Flat on the Trinity River from RM 78 to 79.1. The rehabilitation activities proposed in this EA/DEIR are similar to those described in the EA/DEIR for the Canyon Creek project.

Additional mechanical channel rehabilitation projects (consisting of work at 18 rehabilitation sites originally defined in the FEIS/EIR) are slated for implementation by the TRRP between 2006 and 2008. The Upper Lewiston (Sites 1-4) and Dark Gulch projects are in the planning stage, with estimated construction in 2007. Projects that include eight additional original FEIS/EIR locations are planned for 2008. These projects, located between Lewiston Dam and Junction City, are similar in size and character to the project activities described in Chapter 2. In addition, the TRRP has been augmenting coarse sediment to the mainstem Trinity River in order to enhance alluvial processes and provide juvenile and spawning habitat for anadromous salmonids. In late summer 2003, 2000 cubic yards of coarse sediment (gravel) were placed in the Trinity River at the Lewiston cableway.

In addition to the river rehabilitation projects, the TRRP has completed projects to modify local infrastructure (e.g., raising roads at Poker Bar, moving a residence downstream of Indian Creek, relocating pumps and pump houses) between Douglas City and Lewiston Dam to accommodate future ROD flow releases of up to 11,000 cfs.

The success of future rehabilitation projects is contingent on the increased Trinity River flows mandated by the ROD. The goals of these projects are similar to those of the Proposed Action:

- increase the diversity and area of habitat for anadromous salmonids, particularly habitat suitable for rearing;
- increase the structural and biological complexity of habitat for various species of wildlife associated with riparian habitats; and
- increase the hydraulic and fluvial geomorphic diversity and complexity.

Future projects are intended to encourage desirable geomorphic features. Design criteria have been established to:

- increase channel sinuosity;
- increase diversity in the longitudinal profile of the Trinity River;
- enhance conditions that result in dynamic alternate bar sequences;
- ensure functional floodplains over a range of flows;
- provide side channels that function over a range of flows; and
- enhance or create off-channel wetlands.

Additional restoration actions proposed for the Trinity River corridor include dredging of the Hamilton sediment ponds at the mouth of Grass Valley Creek, which control the introduction of fine sediment from the creek into the Trinity River, and adding up to 5,100 cubic yards of coarse sediment to the Trinity River downstream of the TRSSH before September 15, 2006.

The development and implementation of a Coarse Sediment Management Plan for the Trinity River is anticipated to result in placement of about 10,300 cubic yards of gravel into the river annually, with an estimated range from 0 cubic yards in critically dry water years to 67,000 cubic yards in extremely wet

water years. The actual amounts and locations would be determined through the TRRP monitoring program.

Trinity River Mainstem Fishery Restoration Project

The Trinity River, a major tributary of the Klamath River system, has been subject to extensive water development as part of the CVP. Efforts have been underway since the TRD was constructed to mitigate for its adverse effects on salmonid habitat. The ROD issued on the FEIS (U.S. Department of Interior 2000; U.S. Fish and Wildlife Service et al. 2000) portion of the FEIS/EIR (U.S. Fish and Wildlife Service et al. 2000) mandates a restoration program consisting of “a combination of managed high flow releases, mechanical riparian berm removal, and gravel augmentation to redirect geomorphic processes so that a more complex channel form will evolve, creating the mosaic of aquatic habitats necessary to enhance freshwater salmonid production.”

The FEIS acknowledged a broad spectrum of cumulative impacts, including impacts in the Trinity River basin and the Central Valley of California. The discussion of cumulative impacts in Section 4.1 of the Trinity River Mainstem Fishery Restoration Draft EIS/EIR (DEIS/EIR) was focused on the managed flow releases, primarily with regards to water supply and power production outside the Trinity River basin. As a programmatic document, the FEIS satisfied the disclosure requirements of the lead agencies under NEPA. Because Trinity County did not certify the EIR portion of the environmental document, the CEQA component of the document cannot serve as a Tier 1 EIR. Irrespective of this fact, the FEIS is incorporated by reference into this EA/DEIR, including Section 4.1, Cumulative Impacts. A copy of this document is available at the address specified for the CEQA lead agency in Chapter 1.

The DEIS/EIR identified a number of related actions that were considered in its discussion of cumulative impacts. These actions include:

- implementation of the Central Valley Project Improvement Act
- State Water Resources Control Board water rights process and CALFED Bay-Delta Program
- deregulation of the electric industry in California
- changes in demand for agricultural products
- changes to fisheries management
- changes in demand/supply for timber products
- changes in demand for recreational activities in the Trinity River basin not related to the Trinity River and the TRD
- changes in Trinity River basin consumptive water use

While the purpose of the DEIS/EIR was to evaluate alternatives to restore the Trinity River fishery, the cumulative impacts section of the DEIS/EIR contained only a limited discussion of cumulative impacts specific to the Trinity River basin, particularly with regards to non-flow measures (e.g., mechanical channel rehabilitation).

Section 4.1.14 of the DEIS/EIR emphasized the reliance on predictive models that forecast conditions in 2020, typically using projections of state-wide population growth and associated demand for CVP water supplies. To a lesser degree, this section identified six specific resource issues and discussed their relationship to the Trinity River basin in terms of cumulative impacts. Table 4-1 summarizes this information.

TABLE 4-1

ISSUE-SPECIFIC CUMULATIVE IMPACTS{ TC "Table 4-1
Impacts" \f B \l "1" }

Issue Specific Cumulative

Issue	Summary Statement
Fishery resources	Cumulatively beneficial impact to anadromous fish production; also recognizes a benefit to recreation.
Agricultural land use	No discussion of impacts to land use within the Trinity River basin. Water supply issues focused on irrigated lands in the Central Valley of California.
Groundwater resources	No discussion of impacts to land use within the Trinity River basin. Groundwater resource issues were limited to the Central Valley of California.
Water quality	Trinity River water temperatures associated with TRD releases are expected to improve (decrease). Temperatures in Trinity Lake are assumed to degrade (increase) under normal and dry conditions due to assumed increases in CVP demands.
Power resources	Power production from the TRD is an integral component of the CVP. The analysis did not identify any relationship between power production and the non-flow measures described in the FEIS.
Recreation	Beneficial recreation impacts and associated economic benefits are expected to occur as a result of increased fish production in the Trinity River. Potential recreational impacts to various CVP reservoirs (e.g., Trinity Lake) are anticipated to be very minor.

In conjunction with the preparation of the FEIS, a Biological Opinion issued by NMFS found that the preferred alternative identified in the ROD “is not likely to jeopardize the continued existence of [SONCC ESU] coho salmon,” and “is not likely to destroy or adversely modify critical habitat for the [SONCC ESU] coho salmon.” Specifically, the Biological Opinion concluded “that because the expected outcome of implementation of the Proposed Action is greatly improved fish habitat conditions (including necessary coho salmon habitat), the value of critical habitat for both the survival and recovery of SONCC coho salmon will not be appreciably diminished.” This Biological Opinion included an incidental take statement that established terms and conditions to implement RPMs. RPMs related to the Trinity River Mainstem Fishery Restoration Project are:

- THE USFWS and Reclamation shall complete “the first phase of the channel rehabilitation projects” (i.e., 24 channel projects within 3 years of issuance of the Record of Decision)
- The USFWS and/or Reclamation shall provide for review of individual mainstem channel rehabilitation projects via the technical team (“designated team of scientists,” “technical modeling and analysis team or equivalent group”), and provide a written recommendation to the NMFS about whether the projects are similar to those described in the Trinity River Mainstem Fishery Restoration Project DEIS and should be covered by this incidental take statement; if the technical

team determines that these projects and their impacts to aquatic habitat are substantially different than described in the DEIS and U.S. Fish and Wildlife Service et al. (2000), the technical team will recommend to the NMFS that additional consultation under Section 7 of the ESA is appropriate.

During the technical team's annual review (2006) of TRRP's planned projects, it was determined that in-river work was clearly consistent with the RPMs described in the preceding paragraphs. Consequently, at the request of Reclamation, NMFS amended its 2000 Biological Opinion to clarify its original intent that in-river work required during such channel rehabilitation projects as the Proposed Action and the coarse sediment augmentation projects (i.e., Lewiston Gravel Project) are consistent with the 2000 Biological Opinion. A copy of the amended Biological Opinion is on file at the TRRP office in Weaverville, California.

California Coastal Salmonid Restoration Program/Five Counties Salmonid Conservation Program

As a result of the proposed listing of the SONCC ESU coho salmon, the counties of Humboldt, Trinity, Del Norte, Siskiyou, and Mendocino joined together to assist in the recovery of coho salmon and, more recently, steelhead. The overall goal of the counties is to address and improve anadromous salmonid habitat as well as conservation and restoration within the five-county area, such that the listings do not result in massive economic impacts similar to those that occurred when the northern spotted owl was listed. Significant funding has been or is being provided by NMFS, the State Water Board (Proposition 204 Delta Tributary Watershed Program), CDFG's For the Sake of the Salmon (SB 271), and the California Resources Agency (CRA).

In 1997, the CDFG established the Salmonid Restoration Program for coastal watersheds. Initiatives included in this program support watershed planning projects at a local level, coastal salmon and anadromous trout habitat restoration, and improved efforts to manage anadromous salmon. The program includes a Salmon and Steelhead Trout Restoration Account, to be expended on a wide range of issues, including watershed planning, on-the-ground habitat restoration projects, and other projects for restoring salmonid populations. This fund also finances a Watershed Restoration and Protection Council that 1) oversees state watershed protection and enhancement activities, and 2) directs and develops a Watershed Protection Program to provide for anadromous salmonid conservation.

Trinity County is participating in the Salmonid Restoration Program through the Five Counties Salmon Conservation Program (5C Program.) The 5C Program, consisting of Trinity, Del Norte, Siskiyou, Humboldt, and Mendocino counties, is coordinating and prioritizing restoration projects and developing standard practices to prevent degradation of salmonid habitat resulting from county road projects. NMFS has nominated the 5C Program for the Governor's Environmental and Economic Leadership Award in the area of Watershed Management for "laudable efforts of restoring, enhancing, and improving California's watersheds, while promoting sustainable economic progress."

The 5C Program group has inventoried fish passage barriers at county road crossings and sediment delivery sources along county roads. Prioritized projects were identified to improve fish passage and reduce sediment delivery to both salmonid-bearing and non salmonid-bearing streams in the Trinity,

Klamath, Eel, Mad, Van Duzen, Redwood Creek, Smith, Gualala, and other major coastal watersheds. Fish barriers have been removed at a rate of five to 10 per year for the last 3 years, and future projects are in the planning and design stage.

Clean Water Act, Section 303(d) Total Maximum Daily Load Requirements

The TMDL and accompanying source allocation for sediment in various reaches and tributaries of the Trinity River have been established to comply with Section 303(d) of the CWA because the State of California has determined that the water quality standards for the Trinity River have been consistently exceeded due to excessive sediment. The TMDL for sediment describes how seasonal variation is considered. Sediment delivery in the Trinity River watershed inherently has considerable annual and seasonal variability. Due to the variability in terms of magnitude, timing, duration, and frequency, the TMDL and load allocation apply to the sources of sediment using a 10-year rolling average. A number of contributing causes were identified, including historic mining effects, past road-building activities, certain timber-harvesting practices, and the concomitant effects of reduced bed-mobilizing river flows, due to the TRD, on sediment transport (U.S. Environmental Protection Agency 2001). The TMDL does not allocate flow; however, it does take into account critical conditions for flow, loading, and water quality parameters. The control of the streamflow below the TRD has greatly contributed to the impairment of the Trinity River below Lewiston Dam (U.S. Environmental Protection Agency 2001). The reduction in available coarse sediment upstream of Rush Creek and the significant contribution of fine sediment from Grass Valley Creek have severely affected the sediment flux in the river. These effects are observable as far downstream as the North Fork Trinity River.

In 2001, the EPA established the TMDL, with assistance from Regional Water Board staff (U.S. Environmental Protection Agency 2001). The primary adverse impacts associated with excessive sediment in the Trinity River pertain to the beneficial uses ascribed to anadromous salmonid fish habitat. The main responsibility for water quality management and monitoring resides with the State of California. The EPA now expects the state to develop and submit implementation measures to the EPA as part of revisions to the state water quality management plan, as provided by the EPA regulations in 40 CFR Section 130.6.

4.1.4 ISSUE-SPECIFIC CUMULATIVE IMPACT ANALYSIS

The following discussion identifies potential cumulative impacts that are anticipated as a result of implementing the Proposed Action (including the No-Action Alternative, Proposed Action, Alternative 1, and Alternative 2) in relation to past, present, and reasonably foreseeable future projects for each resource area described in Chapter 3. In other words, the discussion identifies those areas in which the impacts of the Proposed Action, when viewed against the backdrop of these other projects, could cause an incremental impact that is “cumulatively considerable” within the meaning of CEQA. Where appropriate, significant cumulative impacts are described pursuant to CEQA Guidelines. According to Section 15130 of the CEQA Guidelines, effects of the project as well as surrounding projects and reasonably foreseeable development in the surrounding area should be considered. Notably, however, “[a]n EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.” (CEQA Guidelines, § 15130, subd. (a)(1).) Thus, where the impacts of a proposed project are beneficial rather than adverse, the

EIR need not address adverse effects that might arise due to other projects in the vicinity of the project at issue.

Land Use

Under the No-Action Alternative, the Proposed Action would not be implemented and the Trinity River within and downstream of the site boundary would continue to function in response to the managed flows from the TRD. No significant cumulative land use effects are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

There are no incompatible land uses, and access impacts would be temporary under any of the action alternatives. Therefore, no significant or substantial cumulative land use effects are anticipated to occur under any of the action alternatives. The implementation of other restoration elements associated with the Trinity River may support the TRRP goal of restoration of the Trinity River.

Geology, Fluvial Geomorphology, and Soils

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on geology, fluvial geomorphology, and soils would be subject to changes in the managed flow authorized in the ROD. No significant cumulative impacts are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

No significant cumulative impacts associated with geologic hazards, geomorphic processes, or erosional processes are anticipated to occur as a result of implementation of any of the action alternatives. Appropriate implementation of prescribed mitigation measures will adequately mitigate for potential impacts regarding geologic hazards. The short-term erosional aspects will be addressed through implementation of the prescribed mitigation measures in conformance with the Trinity River TMDL. Long-term effects will be beneficial. The fluvial geomorphic processes embodied in the Healthy River Attributes would be affected at the local level (i.e., 40-mile reach of the mainstem Trinity River); however, these effects would not be adverse, and certainly not significant, at the scale previously described.

In short, any of the action alternatives as mitigated would benefit, rather than adversely affect, geology, fluvial geomorphology, and soils in the long term, as would most of the other related programs and projects described in this chapter. Instead of creating adverse impacts that would compound or exacerbate the adverse impacts of other projects, any of these alternatives would contribute to long-term environmental benefits and assist in meeting the TMDL sediment requirements for the Trinity River.

Water Resources

Under the No-Action Alternative, the Proposed Action would not be implemented and the effects on water resources would be similar to those that have occurred since the construction and operation of the

TRD as modified by the ROD. No significant cumulative impacts to water resources are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

No significant cumulative impacts to water resources, specifically no increase in the 100-year flood line within the site boundary illustrated on Figures 2.2a and 2.2b, are anticipated due to implementation of any of the action alternatives. Since some activities associated with the project are within the floodplain of the Trinity River, it is subject to the jurisdiction of the Trinity County Floodplain Management Ordinance. The increased channel capacity provided by any of the action alternatives would reduce flow impacts in conjunction with other channel restoration projects and other flow-impact reduction projects (e.g., elevation and maintenance of infrastructure).

Water Quality

Under the No-Action Alternative, the Proposed Action would not be implemented and the effects on water quality would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to water quality are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

No significant cumulative impacts to water quality are anticipated to occur as a result of implementation of any of the action alternatives. The TRRP has identified the need to undertake a suite of restoration activities throughout the Trinity River basin. While some activities may be implemented simultaneously, the intent of the TRRP is to stage these activities, both in terms of timing and locations, in a way that minimizes the potential short-term impacts on water quality. In the event that simultaneous implementation of these activities is required over the course of several years, some level of cumulative degradation of water quality (sedimentation) could occur within the Trinity River during construction and implementation periods. Even so, however, appropriate implementation of prescribed mitigation measures, coordinated by the TRRP, will adequately mitigate for potential short-term water quality impacts associated with turbidity, sedimentation, accidental spills, etc. The cumulative effect of activities proposed under any of the action alternatives is considered less than significant because they will occur only during construction periods and thus will be short-term.

In short, any of the action alternatives as mitigated would benefit, rather than adversely affect, water quality in the long term, as would most of the other related projects described in this chapter. Instead of creating adverse impacts that would compound or exacerbate the adverse impacts of other projects, any of the action alternatives would contribute to long-term water quality benefits.

Fishery Resources

Under the No-Action Alternative, the Proposed Action would not be implemented and the effects on fishery resources would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to fishery resources are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

No significant cumulative impacts to fisheries resources are anticipated to occur due to the implementation of any of the action alternatives. The Proposed Action, in conjunction with the projects and programs described in the preceding section, is a direct result of years of legislative direction, legal decisions, scientific study, and public involvement directed at restoring the fishery resources of the Trinity River. NMFS' 2000 Biological Opinion (National Marine Fisheries Service 2000) acknowledged that simultaneous implementation of these projects and programs (specifically the TRRP) may result in short-term loss of aquatic habitat and temporary displacement of aquatic organisms. Even so, however, the Biological Opinion stated that the activities would not have a cumulative impact on the SONCC ESU of coho salmon. Since a primary objective of the TRRP is restoring the form and function of physical processes and riparian communities in the Trinity River basin, the projects and programs described above have a collective purpose of restoring the fishery resources in the Trinity River. Appropriate implementation of prescribed mitigation measures, coordinated by the TRRP, will adequately mitigate for potential short-term impacts associated with removal of vegetation, loss of habitat, effects on wetlands, and short-term degradation of water quality. The cumulative effect of these identified actions within the scope of this analysis is considered less than significant.

In short, any of the action alternatives as mitigated would benefit, rather than adversely affect, fishery resources in the long term, as would most of the other related projects and programs described in this chapter. Instead of creating adverse impacts that would compound or exacerbate the adverse impacts of other projects, any of the action alternatives would contribute to long-term fishery resources benefits.

Vegetation, Wildlife, and Wetlands

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on vegetation, wildlife, and wetlands would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. The potential for continued encroachment on and conversion of these resources is directly related to the ability to provide a flow regime designed to restore certain habitat components. No significant cumulative impacts to these resources are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects. The selection of the No-Action Alternative, however, could limit the ability of the TRRP to achieve the overall goal of restoration of the Trinity River.

No significant cumulative impacts to vegetation, wildlife, and wetlands are anticipated to occur as a result of implementation of any of the action alternatives. The action alternatives, in conjunction with the

projects and programs described in the preceding section, are a direct result of years of legislative direction, legal decisions, scientific study, and public involvement that were directed at restoring the physical processes and biological resources of the Trinity River. Since a primary objective of the TRRP is restoring the form and function of physical processes and riparian communities in the Trinity River basin, the projects and programs described above have a collective purpose of restoring the mainstem Trinity River. Simultaneous implementation of these projects may result in short-term (i.e., temporary) loss of upland, wetland, and riverine features, including Waters of the United States. In some instances, projects could result in a conversion of these features (e.g., riparian wetlands to “other waters”); however, these projects provide the foundation necessary to meet the primary objective of the TRRP. Effects would be short-term and primarily associated with construction-related activities. Appropriate implementation of prescribed mitigation measures, coordinated by the TRRP, would adequately mitigate for potential impacts associated with these activities (e.g., removal of vegetation, loss of habitat, and impacts on wetlands). The cumulative effect of these identified actions within the scope of this analysis is considered less than significant.

In short, the project as mitigated will benefit, rather than adversely affect, vegetation, wildlife, and wetlands in the long term, as will most of the other related projects and programs described in this chapter. Thus, far from creating adverse impacts that will compound or exacerbate the adverse impacts of other projects, any of the action alternatives will contribute to long-term vegetation, wildlife, and wetlands benefits.

Recreation

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on recreation would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to recreation resources are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to recreational resources are anticipated to occur due to implementation of any of the action alternatives. The projects and programs described above are intended to benefit the aquatic environment and the Trinity River fishery. Benefits to recreational values may be achieved through the implementation of the TRRP over time.

In short, the project as mitigated will benefit, rather than adversely affect, recreation in the long term, as will most of the other related projects described in this chapter. Instead of creating adverse impacts that will compound or exacerbate the adverse impacts of other projects, any of the action alternatives will contribute to long-term recreation benefits.

Socioeconomics, Population, and Housing

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on socioeconomics, population, and housing would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to socioeconomics, population, and housing are anticipated to result from the No-Action Alternative. Since

no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to socioeconomics, population, and housing are anticipated to occur as a result of implementation of any of the action alternatives. The projects and programs described above are intended to benefit the Trinity River fishery, with projected economic and social benefits to the residents and communities in the general area. Some socioeconomic benefits are expected through the implementation of the TRRP, including short-term demand for construction labor and potential for increased long-term recreational use as the fishery responds to various TRRP restoration activities.

Tribal Trust Assets

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on Tribal Trust Assets would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. The status of the Tribal Trust Assets will be related to the level of restoration achieved by the TRRP. No significant cumulative impacts to Tribal Trust Assets are anticipated from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to Tribal Trust Assets are anticipated to occur as a result of implementation of any of the action alternatives. The projects and programs described above are intended to benefit the Tribal Trust Assets, including the Trinity River fishery under the auspices of the TRRP over time.

In short, any of the action alternatives as mitigated will benefit, rather than adversely affect, Tribal Trust Assets in the long term, as will most of the other related projects and programs described in this chapter. Any of the action alternatives will contribute to long-term environmental benefits and benefits to Tribal Trust Assets.

Cultural Resources

Under the No-Action Alternative, the Proposed Action would not be implemented, and the impacts on cultural resources would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to cultural resources are anticipated as a result of the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to cultural resources are anticipated to occur as a result of implementation of any of the action alternatives. The focus of the projects and programs described in the preceding section is on restoration efforts on the bed and banks of the Trinity River. The proximity of anticipated restoration efforts to the floodplain reduces the likelihood that cultural resources may be encountered. The PA (Appendix F) described in Section 3.11 was intended to address the multiple elements of the TRRP. Appropriate implementation of prescribed mitigation measures (e.g., professional archaeologist surveying of potential impact areas prior to construction, protection of potentially

significant cultural sites, and coordination with local tribes), in coordination with the SHPO, will adequately mitigate for potential impacts.

Air Quality

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on air quality would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to air quality are anticipated as a result of the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to air quality are anticipated to occur as a result of implementation of any of the action alternatives. The NCUAQMD requirements will be addressed by appropriate implementation of prescribed mitigation measures.

Although, as explained in Section 3.12, any of the action alternatives would generate some temporary air emissions in conjunction with grading activities, these emissions would be too limited to rise to the level of being “cumulatively considerable.” In part, this is because they would be temporary, but also because the projects and programs described in the preceding section are not anticipated to generate any long-term air pollutants. Moreover, construction activities associated with these projects and programs are not likely to occur at the same time, and the locations of the activities themselves are generally far enough apart to allow for considerable dissipation and dispersion of construction-related pollutants.

Environmental Justice

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on environmental justice would be similar to those that have occurred since the construction and operation of the TRD. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

Activities evaluated in the action alternatives are specific to a 2.8-mile reach of the Trinity River. Most of these activities, specifically those within the riverine areas, are intended to mimic the geomorphic processes that may occur during large flood events in order to restore the Trinity River fishery. Overall, the TRRP, in conjunction with the other projects and programs discussed in the preceding section, is anticipated to provide a net benefit to the local communities by restoring the Trinity River fishery. No significant cumulative impacts to environmental justice are anticipated to occur as a result of the implementation of any of the action alternatives evaluated in this EA/DEIR.

Aesthetics

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on aesthetic resources would be similar to those that have occurred since the construction and operation of the TRD as modified by the ROD. No significant cumulative impacts to aesthetic resources are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts to aesthetics are anticipated to occur as a result of implementation of any of the action alternatives. The short-term effects that would result from other restoration and watershed projects in the river corridor will be consistent with federal and state requirements for Wild and Scenic Rivers and the Trinity County General Plan.

In short, any of the action alternatives will benefit, rather than adversely affect, aesthetics in the long term, as will most of the other related projects described in this chapter. Overall the project will enhance vegetative diversity as historic variability in plant species and age class composition is restored. This will support the visual objectives to maintain the aesthetic qualities of a free-flowing river within the Wild and Scenic River corridor. Instead of creating adverse impacts that will compound or exacerbate the adverse impacts of other projects, the action alternatives will contribute to long-term aesthetic values.

The aesthetic impacts of the projects are not “cumulatively considerable,” in large part because their impacts will not compound or exacerbate the aesthetic impacts of the previously identified related future projects, which are located in areas that are physically separated from the project. Because people will not be able to see all of these projects, or even many of these projects, at the same time, their visual impacts are individualized and are limited to the geographic settings in which they are located.

Hazardous Materials

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects associated with hazardous materials would be similar to those in the surrounding area. No significant cumulative impacts related to hazardous materials are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts relative to hazardous materials are anticipated through the implementation of any of the action alternatives evaluated in this EA/DEIR. Grading activities associated with the project would not involve the inordinate use, production, or disposal of materials that would pose a hazard to the environment in the affected area (Trinity River corridor). All activities are intended to minimize potential public health or safety hazards (e.g., fires, accidents), and are specifically designed to ensure that emergency response plans or emergency evacuation plans are not affected.

Noise

Under the No-Action Alternative, the Proposed Action would not be implemented and the noise effects would be similar to those in the ambient environment. No significant cumulative noise effects are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts related to noise are anticipated through the implementation of any of the action alternatives. The TRRP will coordinate the implementation of other restoration projects to ensure that construction noise is minimized through project scheduling.

The noise impacts of the projects are not “cumulatively considerable,” in large part because their impacts will not compound or exacerbate the noise impacts of the previously identified related future projects,

which are located in areas that are physically separated from the location of the project. Since noise is typically a short-term impact, if the project was not constructed simultaneously with other projects, there would not be a cumulative contribution. Similarly, because people would not be able to hear noise from more than one of these projects at the same time, the separate noise sources—all of which are temporary—would not contribute to any cumulative noise impacts. Rather, each project would create only very localized noise levels.

Public Services and Utilities/Energy

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects on Public Services and Utilities/Energy would be similar to those in the surrounding area. No significant cumulative impacts to Public Services and Utilities/Energy are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

No significant cumulative impacts related to Public Services and Utilities/Energy are anticipated through the implementation of any of the action alternatives. The project is designed in a manner that ensures that emergency services would not be disrupted; that public services (e.g., school bus routes) would not be adversely affected; and that waste material generated from project activities would be transported to authorized locations. The nature of the project (grading activities) will not result in the use of large amounts of fuel or energy, nor would fuel or energy be used in a wasteful manner.

Transportation/Traffic Circulation

Under the No-Action Alternative, the Proposed Action would not be implemented, and the effects associated with transportation/traffic circulation would be similar to those in the surrounding area. No significant cumulative impacts to transportation/traffic circulation are anticipated to result from the No-Action Alternative. Since no action would be taken, there would be no impact that could contribute to a larger cumulative effect due to other projects.

Although, as explained in Section 3.18, any of the action alternatives would generate some temporary construction-related traffic, such traffic would not rise to the level of being “cumulatively considerable.” This is so in part because the traffic would be temporary, but also because the previously identified related future projects would also tend not to generate any long-term traffic. Moreover, construction activities for all of the various projects are not likely to occur at once, and the locations of the activities themselves are generally far enough apart to make it unlikely that trucks serving one construction location will cross paths with trucks serving a separate location.

No significant cumulative impacts related to transportation/traffic circulation are anticipated through the implementation of any of the action alternatives. The TRRP will coordinate with appropriate road management agencies to ensure that the mitigation measures prescribed in this EA/DEIR are acceptable to these agencies.

4.2 Growth-Inducing Impacts

4.2.1 INTRODUCTION

This section evaluates the potential for growth that could be induced by implementation of any of the action alternatives and assesses the level of significance of any expected growth inducement. The potential for growth inducement is limited by the nature and location of the rehabilitation activities described in Chapter 2.

River rehabilitation projects are typically implemented in specific areas during a finite time period. Although the TRRP was established to implement the ROD, thereby increasing the fishery resources of the Trinity River, growth-inducing impacts within Trinity County were not anticipated. Section 15126 (g) of the state CEQA Guidelines provides definitions and guidance in determining the growth-inducing impacts of a Proposed Action.

Specifically, a project is defined to be growth-inducing if it would

- accelerate the rate of planned growth,
- remove obstacles to population growth,
- tax existing community service facilities, and
- foster, promote, or sustain economic or population growth.

Growth itself is not assumed to be beneficial, detrimental, or insignificant to the environment. If a project is determined to be growth-inducing, an evaluation is made to determine if significant impacts on the environment would result from that growth.

4.2.2 GROWTH AND DEVELOPMENT POTENTIAL

Trinity County Growth Policies

The Trinity County General Plan (Trinity County 2001) does not describe specific growth policies; however, it establishes general goals and policies related to housing and residential land use. Trinity County recognizes that more than one-half of its housing is located in remote, rural areas with a high level of individual self-reliance in meeting its infrastructure needs. Trinity County also understands that a strong tradition exists of non-involvement of local government in the area of housing and residential development.

Population

Trinity County's population is concentrated in and around the communities of Weaverville, Douglas City, Lewiston, and Hayfork, as described in Section 3.9. The population in the county increased significantly between 1970 and 1980, from 7,615 to 11,858 (a 55 percent increase). Although growth continued through 1990, the rate of increase was substantially lower (a 12 percent increase to 13,300). The population growth was furthered by an influx of retirees and of people seeking an alternative lifestyle in the mountains of northern California and a reasonable cost of living.

Vacant Land and Projected Buildout

Approximately 14.6 percent of the land in Trinity County is potentially available for private development. The USFS, the BLM, and various timber production firms manage the balance of the lands within the county. The General Plan identifies 5,517 private parcels as unimproved and potentially available for development and suggests that the actual number may be significantly lower, based on requirements for waste disposal, slope, and water sources.

Trinity County's Constraints to Development

The General Plan identifies a number of existing or potential factors that could adversely affect future residential and commercial development. A number of state and local permits and fees are currently required for new developments. Building Construction Standards and compliance with CEQA are also identified as potential constraints to development. The ability to develop the necessary infrastructure (i.e., water, sanitation, energy, and access) continues to challenge developers throughout Trinity County.

Proposed Land Uses

In general, all parcels within the site boundary described in Chapter 2 have been fully subdivided to the extent possible under existing zoning designations; therefore, future rural residential development within the site boundary is unlikely. Located directly adjacent to the river, many of these parcels fall into the Flood Hazard and Scenic Overlay designation zones, making further development of these areas difficult. Several parcels zoned for residential use are currently vacant, and the potential for development of a single-family residence on such parcels does exist. The BLM manages public land within the site boundary consistent with the federal WSRA and its Resource Management Plan. In general, the parcels within the site boundary have no further potential for development. There will be no growth-inducing impacts as a result of this project.

4.3 Significant Irreversible and Irretrievable Commitments of Resources

Specific to the requirements of the President's CEQ NEPA Regulations, Section 102 and 40 C.F.R. 1502.16, an environmental document must include a discussion of "any irreversible and irretrievable commitments of resources which would be involved in a Proposed Action should it be implemented." Additionally, Section 15126.2(c) of the CEQA Guidelines requires a discussion of significant irreversible environmental changes that would result from a proposed project should it be implemented. This section states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The No-Action Alternative would not directly involve the use of resources or cause significant irreversible environmental effects other than those previously described in the FEIS (U.S. Fish and Wildlife Service et al. 2000) and incorporated by reference in other sections of this document. Implementation of any of the action alternatives would result in an irretrievable commitment of energy (i.e., fossil fuels) and other nonrenewable resources used in the excavation, disposal, and revegetation of the rehabilitation areas, as described in Chapter 2. Since these resources are not in short supply and the material requirements for this project would be relatively minor compared to the overall demand for such materials, the use of these materials would not have a significant adverse effect on their continued availability. Additionally, the project purpose and need, as well as the project objectives discussed in Chapter 1, justify the need for the expenditure of these resources.

4.4 Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Section 102 of the CEQ NEPA Regulations and CFR 1502.16 require that an environmental document include a discussion of “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity.”

The Proposed Action would not sacrifice the long-term productivity of the project area for short-term uses. The short-term impacts on the environment associated with implementation of the Proposed Action are considered minimal compared to the long-term benefit and productivity that would result from the Proposed Action in conjunction with other objectives of the TRRP. Construction-related impacts on natural resources, including water quality, fisheries, wildlife, vegetation, and wetlands, will be mitigated to a less-than-significant level. Land use conflicts associated with noise, aesthetics, air quality, and traffic would be short-term, occurring only during the construction phase of the project. This impact is considered less than significant, and no mitigation is required.

4.5 Mitigation Monitoring Program for CEQA-Mandated Mitigation

Under NEPA, there are no specific statutes or regulations that explicitly require that all significant project impacts be avoided or mitigated to a less-than-significant level, or that any adopted mitigation measures developed as part of an EA be “monitored” to ensure that they are carried out. Under CEQA, Public Resources Code section 21081.6(a) requires lead agencies to “adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment.”

Throughout this EA/DEIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by Trinity County as conditions of project approval will be included in a Mitigation Monitoring and Reporting Program (MMRP) to verify compliance. The Draft MMRP is included as Appendix A to this document, and the Final MMRP will be included as an appendix to the EA/Final EIR. The approval of such a program will be part of any action taken by Trinity County with respect to the project. When other regional or state agencies subject to CEQA approve portions of the Proposed Action under their

own jurisdiction or regulatory power, these “responsible agencies” will be required to adopt their own MMRPs (CEQA Guidelines, Section 15097(d)).

The MMRP will be used by Trinity County in conjunction with Reclamation staff, project contractors, participating agencies, and monitoring personnel during project implementation. The intent of the MMRP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMRP will provide for monitoring of construction activities as necessary, on-site identification of environmental problems, and proper reporting to Reclamation staff.

4.5.1 RESPONSIBILITIES AND AUTHORITY

Reclamation will have the primary responsibility for implementation of the MMRP. Reclamation will be responsible for the following tasks:

- ensuring that the MMRP is incorporated into the construction bid documents,
- coordinating monitoring activities,
- directing the preparation and filing of compliance reports, and
- maintaining records concerning the status of all mitigation measures.

4.5.2 MONITORING PLAN FORMAT

The MMRP includes a summary table that identifies the mitigation measures proposed for the Proposed Action. These mitigation measures will be excerpted from this EA/DEIR. The mitigation monitoring table includes the following columns:

- **Mitigation Measure:** Presents the mitigation measures identified the EA/DEIR for a specific impact, along with the number of each measure, as presented in the EA/DEIR.
- **Timing:** Identifies when the mitigation measures will be implemented.
- **Agency/Department Consultation:** References the specific agency or agencies with which coordination is required to satisfy the requirements of the mitigation measure.
- **Verification:** Spaces to be initialed and dated by the individual designated to verify compliance with a specific mitigation measure.

4.5.3 NONCOMPLIANCE COMPLAINTS

Complaints of noncompliance with adopted mitigation measures shall be directed to Reclamation in written form, providing specific information on the alleged violation. If any complaints are received, Reclamation and Trinity County shall conduct an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure has occurred, Reclamation shall take the appropriate action to remedy the violation. The complainant shall receive written confirmation indicating the results of the investigation or the final action corresponding to the particular noncompliance issue.

4.6 *Significant Unavoidable Adverse Impacts*

Public Resources Code Section 21100(b)(2)(A) requires that an EIR include a detailed statement that summarizes any significant effects on the environment that cannot be avoided if a Proposed Action is implemented. CEQA Guidelines Section 15126.2(b) states that such impacts include those that can be mitigated but not reduced to a level of insignificance. When there are significant impacts that cannot be fully mitigated to a less-than-significant level or minimized by changing the project design, the implications of the impacts and the reasons why the project is being proposed must be described. The environmental analysis conducted for the Proposed Action did not identify any significant unavoidable impacts.

4.7 CEQA Findings of Fact and Statements of Overriding Consideration

Section 15091 of the CEQA Guidelines states that “no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of these significant effects, accompanied by a brief explanation of the rationale for each finding.” For this EA/DEIR, Trinity County would need to prepare written findings for each significant impact identified in this document before it can approve the project.

Section 15093(a) of the CEQA Guidelines allows the decision-making body of the lead agency to determine if the benefits of a Proposed Action outweigh the unavoidable adverse environmental impacts of implementing the project. The lead agency can approve a project with significant unavoidable impacts if it prepares a “Statement of Overriding Considerations” that sets forth the specific reasons for making such a judgment. Since no significant unavoidable impacts were identified for the Proposed Action, a Statement of Overriding Considerations would not be required for this alternative.

Consultation and Coordination

This chapter summarizes the scoping process, consultation, coordination, and applicable laws, policies, and regulations used to develop this EA/DEIR.

5.1 *Lead and Participating Agencies*

The co-lead agencies for this EA/DEIR are Reclamation, as defined by NEPA, and Trinity County, as defined by CEQA. The primary cooperating (NEPA) and responsible and trustee (CEQA) agencies are:

- U.S. Department of Interior, Bureau of Land Management
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- California Department of Fish and Game
- California Regional Water Quality Control Board, North Coast Region

5.2 *Project Scoping*

5.2.1 SUMMARY OF PUBLIC SCOPING MEETINGS

The following is a summary of the public scoping process that has been completed to date:

- **Fall 2004** – An initial project planning meeting was held at an Indian Creek landowner's home to discuss the nature of the Proposed Action, discuss landowner concerns, and receive local input from potentially affected landowners.
- **Summer 2005** – A Project Kick-Off meeting was held with representatives from Reclamation, DWR, BLM, CDFG, Trinity County, and the environmental consulting team to discuss the project, potential alternatives, the timing requirements for the environmental review process, the scope of technical studies, and potential permitting requirements.
- **Fall 2005** – A field review was conducted by members of the design team and the environmental consulting team. The review resulted in delineating the site boundary for the Proposed Action and developing several conceptual rehabilitation themes for additional evaluation.
- **Fall 2005** – Reclamation conducted a meeting that included potential lead and cooperating agencies to discuss the type and degree of NEPA and CEQA compliance required by the project. The review resulted in revising the site boundary for the Proposed Action and working with various stakeholders to refine design concepts. Reclamation staff met with local landowners and incorporated their concerns into project designs.
- **January 20, 2006** – Trinity County, the CEQA lead agency, submitted an NOP to the State of California, Governors Office of Planning and Research, State Clearinghouse (SCH) for the Proposed Action. The NOP encouraged full public participation to promote open communication

on the issues surrounding the Proposed Action. All federal, state, and local agencies and other persons or organizations were urged to participate in the scoping process.

- **January 25 and February 1, 2006** – In conjunction with the issuance of the NOP, a Public Notice was published in the *Trinity Journal*, the newspaper that serves Trinity County. The notice included information on the Proposed Action, as well as the date and location of the public scoping meeting.
- **February 8, 2006** – A Public/Agency Scoping Meeting was held at the Trinity County Library in Weaverville, California. The purpose of the meeting was to outline the objectives of the TRRP; identify the types of actions and alternatives that might be evaluated in the joint NEPA/CEQA document; describe the nature, scope, and timing of the environmental process; and solicit comments on the NOP. In addition to TRRP staff, 12 stakeholders residing in the Weaverville/Junction City community area attended this meeting.

5.2.2 COMMENTS ON THE NOTICE OF PREPARATION

On January 20, 2006, Trinity County circulated an NOP to the public and to local, state, and federal agencies to solicit comments. The NOP is included in Appendix B. Agencies and organizations that provided comments and/or comment letters on the NOP are listed below:

- Yurok Tribe
- Tsungwe Council
- Nor Rel Muk Nation
- U.S. Army Corps of Engineers
- California Department of Forestry and Fire Protection/County Fire Chiefs Association
- California Department of Transportation
- California Native American Heritage Commission
- Trinity County Weed Management Cooperative
- Trinity County Public Utility District
- Trinity County Environmental Health, Building and Development Services
- Weaverville Community Services District
- Verizon California
- Cal Trout

Additional information on the scoping process is provided in Appendix B.

5.2.3 LIST OF AGENCIES AND ORGANIZATIONS CONTACTED

Following is a list of agencies and organizations that were consulted during the preparation of this EA/DEIR:

- California Air Resources Board
- California Department of Fish and Game

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- California Department of Transportation
- California Division of Mines and Geology
- California Native American Heritage Commission
- California State Lands Commission
- California Resources Agency
- California Water Quality Control Board, North Coast Region
- Douglas City Community Volunteer Fire Department
- Douglas City Elementary School
- National Marine Fisheries Service(Arcata)
- Trinity County Building and Development Services, Environmental Health Division
- Trinity County General Services Department
- Trinity County Transportation Department
- Trinity County Sheriff's Office
- U.S. Army Corps of Engineers (San Francisco District – Eureka Field Office)
- U.S. Department of Transportation, U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service (Arcata Field Office)
- U.S. Forest Service (Shasta-Trinity National Forest)
- Weaverville Community Services District

The names of the specific individuals who were contacted are listed under “Persons Contacted” in Chapter 6, “References.”

5.3 Agency Consultation and Coordination

Provided below is a list of the laws, rules, regulations, and federal executive orders that were considered in the preparation of this EA/DEIR.

5.3.1 CONSISTENCY WITH ENVIRONMENTAL LAWS

Provided below is a discussion of how this EA/DEIR is consistent with NEPA and CEQA.

National Environmental Policy Act

This EA/DEIR was prepared pursuant to NEPA and the regulations implementing that statute. NEPA provides a commitment that federal agencies will consider the environmental effects of their actions and disclose their environmental effects. This EA/DEIR provides detailed information regarding project alternatives, the effects of these alternatives on the environment, and potential mitigation measures. Chapter 1 provides a comprehensive discussion of the NEPA requirements pertaining to the Proposed Action.

California Environmental Quality Act

This EA/DEIR was prepared to comply with CEQA, based on Trinity County's determination that the Proposed Action constitutes a "project" under CEQA (CEQA Guidelines Section 15378[a]). Key among the CEQA provisions is the requirement to identify all significant impacts. Significance thresholds are identified for each issue area to allow the reader to clearly see at what point a given environmental impact is considered significant. CEQA and NEPA are similar in many ways, including in terms of identification of alternatives, potential mitigation measures, and adverse environmental impacts that cannot be avoided (see Chapter 1). However, to the extent possible, CEQA requires mitigation measures to be incorporated into a proposed project. This joint NEPA/CEQA document was prepared to comply with both laws while reducing redundancy while providing the necessary documentation for both processes.

5.3.2 DISCRETIONARY APPROVALS

The various discretionary approval processes that have been completed or are being coordinated concurrent with the NEPA/CEQA environmental review process are summarized below.

U.S. Army Corps of Engineers

Reclamation will be required to obtain a Section 404 permit from the Corps. Discharge of fill material into "waters of the U.S.," including "wetlands," is regulated by the Corps under Section 404 of the federal CWA (33 USC 1251-1376). Projects are permitted under either individual or general (e.g., nationwide) permits. The Corps, on a case-by-case basis, determines specific applicability of permit type. Communication with the U.S. Coast Guard confirmed that the Trinity River is not under its jurisdiction as "navigable waters of the U.S." Therefore, the Trinity River is not subject to Corps jurisdiction under Section 10 of the federal Rivers and Harbors Act (33 USC 401 et seq.).

The location and boundaries of wetlands and other waters potentially affected by the Proposed Action were evaluated based on field surveys, aerial photograph interpretation, and existing published information. Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3; 40 CFR 230.3)." "Other waters" are stream channels, drainages, open water habitats, and other surface water features that do not support positive indicators for the three mandatory technical criteria. The jurisdictional wetland delineation report is included in Appendix C. The delineation was conducted using methods specified in the Corps' 1987 guidelines (Environmental Laboratory 1987).

On April 7, 2006, the delineation was verified by the Corps (File No. 2992N) (see Appendix C). The jurisdictional wetland delineation report is intended for use by the Corps in determining the location and extent of Section 404 jurisdiction. Reclamation will continue to coordinate with the Corps to determine the appropriate permit for the project, as well as potential mitigation measures. It is anticipated that the Proposed Action will be permitted under Nationwide Permit Number 27 (Wetland and Riparian Restoration and Creation Activities).

Error! Main Document Only.**U.S. Fish and Wildlife Service/National Marine Fisheries Service**

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat for these species. Reclamation, as the federal lead agency for this project, is required to consult with NMFS concerning project effects to the SONCC ESU coho salmon, which is federally listed as threatened, and its designated critical habitat.

During review of TRRP's planned 2006 projects, NMFS determined that its Biological Opinion for the Trinity River Mainstem Fishery Restoration Program did not explicitly cover in-river construction activities for channel rehabilitation projects, although it did clearly cover in-river construction activities for coarse sediment projects. In discussions between Reclamation and NMFS concerning this issue, NMFS clarified that it had considered the mechanical channel rehabilitation projects in its opinion along with other non-flow measures. At the request of Reclamation, however, NMFS amended the Biological Opinion to clearly articulate that in-channel activities for mechanical channel rehabilitation projects are consistent with the intent of the original opinion. NMFS also confirmed that the incidental take statement in the opinion is adequate for all activities associated with the mechanical rehabilitation projects. The mechanical rehabilitation projects were specifically included as reasonable and prudent measures (RPMs) in the original opinion. The Amended Biological Opinion is on file at the TRRP office in Weaverville.

Additional RPMs described in Chapter 2 were incorporated into the project. As a result of the informal consultation between Reclamation and NMFS, NMFS determined that re-initiation of formal consultation was unnecessary.

Informal consultation with the USFWS concerning effects to the northern spotted owl was conducted by Reclamation. Based on this informal consultation and Trinity River bird distribution data provided by USDA Forest Service, Redwood Sciences Laboratory, Reclamation determined that a biological assessment is not required because the Proposed Action would have no effect on northern spotted owl or its critical habitat.

NOAA Fisheries – Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for species regulated under a federal FMP. For the Pacific Coast (excluding Alaska), there are three FMPs covering groundfish, coastal pelagic species, and Pacific salmon. The analyses in this EA/DEIR satisfy the requirement to consider the impact of the Proposed Action on EFH for both SONCC ESU coho salmon and Chinook salmon in the Trinity River, pursuant to the Pacific Coast Salmon FMP.

EFH refers to those waters and substrate necessary for spawning, breeding, feeding, or growth to maturity. "Waters" include aquatic areas and associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate. "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities. "Necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem. "Spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

The MSA requires federal agencies to consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (MSA §305[b][2]). “Adverse effect” means any impact that reduces the quality and/or quantity of EFH, and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. A component of the consultation process is the preparation and submittal of an EFH Assessment (EFHA). An EFHA must include the following information: 1) a description of the proposed action; 2) an analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, including affected life history stages; 3) the federal agency’s views regarding the effects of the proposed action on EFH; and 4) proposed mitigation, if applicable. In instances where MSA and ESA issues overlap, NMFS encourages an integrated approach for consultation.

In an effort to integrate the consultation process with the environmental review process, Section 3.6 of this EA/DEIR was prepared to satisfy the requirements of the MSA.

California Department of Fish and Game

California Endangered Species Act

State-listed species are fully protected under the mandates of the CESA. In 2000, the California Fish and Game Commission (Commission) received a petition to list coho salmon north of San Francisco as an endangered species under provisions of the California Endangered Species Act (CESA). The Commission required that a comprehensive, state-wide coho salmon recovery strategy and plan be developed while it considered the petition. The coho salmon recovery plan was adopted by the Commission in February 2004 (California Department of Fish and Game 2004). However, the Commission declined to list the coho under CESA in June 2004 on a split vote, noting that existing federal protections and voluntary conservation measures and efforts guided by the recovery plan appear sufficient at this time to stem declines of coho salmon in California. On August 5, 2004, the Commission voted to list the coho as threatened from Punta Gorda north to the Oregon border.

California Department Transportation

Caltrans is responsible for activities within the right-of-way (ROW) for SR 299, and any activities that occur within the ROW are subject to approval by Caltrans. Material excavated from the left side of the Trinity River will be transported to an approved location outside the project boundary; because transporting these materials will require crossing the right-of-way, an encroachment permit will be required. Caltrans has met with TRRP staff to review and discuss the technical requirements that would be included in an encroachment permit.

California State Lands Commission

Since the State of California maintains ownership of the bed of the Trinity River, placement of structures in the river may require a public agency lease from the SLC. The SLC reviewed the NOP for the project in January 2006 during the scoping process. Since the state interest has not been defined (jurisdiction has not been determined for the project area), a lease application from the SLC will not be required for the Proposed Action. The SLC maintains, however, that a retroactive lease application may be required if, in the future, jurisdiction is determined for the area in question.

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California Regional Water Quality Control Board

The Regional Water Board requires that a project proponent obtain a Section 401 (CWA) water quality certification for Section 404 permits granted by the Corps. Since the project would have the potential to affect water quality in the Trinity River, the Regional Water Board is likely to impose water quality limitations on the project, either through water quality certification and/or a waste discharge requirement.

Reclamation will prepare and submit to the Regional Water Board a request for water quality certification or waste discharge requirements. The request will be submitted to the Regional Water Board when the pre-construction notification is sent to the Corps for the Section 404 permit. A likely condition of the Section 401 certification is the preparation of an erosion and sedimentation control plan and a spill prevention and containment plan.

California Reclamation Board

The Trinity River basin does not have any flood control project levees and floodways. Therefore, the California Reclamation Board does not have jurisdictional authority over the Trinity River. No encroachment permit from the Reclamation Board will be required for this project.

Trinity County Ordinances

The Trinity County Floodplain Management Ordinance, found in Section 29.4 of the County Zoning Ordinance, requires a Floodplain Development Permit for projects that would alter the Trinity River floodplain on private lands within the jurisdiction of Trinity County. The principal requirement of the permit is certification by a registered professional engineer or architect that construction will not adversely affect the flood-carrying capacity of any altered portion of the watercourse, and will not cumulatively raise the 100-year flood elevation by more than 1 foot in the project area. The ordinance also requires notification of adjacent communities, the CDFG, the Corps, the Regional Water Board, and the DWR prior to any alteration or relocation of a watercourse, and the submission of evidence of such notification to the Federal Insurance Administration and the FEMA.

5.3.3 CONSISTENCY DETERMINATIONS

Governing laws for which a consistency determination will need to be made are summarized below.

Federal Emergency Management Agency

Trinity County implements FEMA's NFIP through its Floodplain Management Ordinance, which is contained in Section 29.4 of the Zoning Ordinance (Ordinance No. 315). County participation in the NFIP is voluntary, but if the County elected to not participate, landowners in Trinity County would be ineligible for flood insurance and the County would be ineligible for disaster relief payments when flood or other damages occur to facilities such as county roads.

Under the County's Floodplain Management Ordinance, projects must not to increase 100-year flood elevation, otherwise known as base flood elevation (BFE), by more than 12 inches. The general concept of mechanical channel rehabilitation is to remove riparian berms and to lower floodplain elevations in a manner that allows the river to regain some degree of alluvial form and function (build point bars and scour pools). At the level of engineering analysis associated with this EA/DEIR, the alternatives that

remove material from the floodplain to upland locations would result in lowering or having no detrimental effects on floodplain elevations within the boundary of the Proposed Action. Prior to issuance of a Floodplain Development Permit for the Proposed Action, the County must receive engineering data to certify that the project will not negatively affect the BFE by more than 12 inches.

Section 106 of the National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological, and cultural resources. Agencies are required, within the vicinity of Proposed Actions, to identify historical or archeological properties, including properties on the NRHP, and those that the agency and the SHPO agree are eligible for listing on the NRHP. If the federal project is determined to have an adverse effect on properties listed on the NRHP or those eligible for listing on the NHRP, the agency is required to consult with the SHPO and the ACHP to develop alternatives or mitigation measures to allow the project to proceed.

An archeological survey report and historic property survey report have been prepared for the Proposed Action. This report documents the findings of the cultural resources reconnaissance, which was conducted according to the protocol outlined in the Programmatic Agreement among the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Hoopa Valley Tribe, California State Historic Preservation Office, and the Advisory Council on Historic Preservation regarding Implementation of the Trinity River Mainstem Fishery Restoration. The conclusion of this evaluation was that the features within the APE defined for the Proposed Action do not meet the criteria for eligibility for inclusion on the NRHP. With implementation of mitigation measures identified in Section 3.11, the Proposed Action would have no effect on cultural resources.

Federal Wild and Scenic Rivers Act

The federal WSRA designates qualifying free-flowing river segments as wild, scenic, or recreational. The WSRA establishes requirements applicable to water resources projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers System, as well as rivers designated on the National Rivers Inventory. Under the WSRA, a federal agency may not assist in the construction of a water resources project that would have a direct and adverse effect on the free-flowing, scenic, or natural values of a wild or scenic river. If the project would affect the free-flowing characteristics of a designated river or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area, such activities should be undertaken in a manner that would minimize adverse impacts, and should be developed in consultation with the administering agency. The Trinity River is designated for its outstandingly remarkable anadromous fishery values and has been classified as a Recreational River from Cedar Flat to Lewiston Dam. Appendix D includes a Wild and Scenic River Section 7 Analysis and Determination for the Proposed Action, which concludes that the Proposed Action would not affect the free-flowing condition of this segment of the Trinity River and would therefore be in compliance with BLM Resource Management Plan guidelines.

State Wild and Scenic Rivers Act

Under the California WSRA, the segment of the Trinity River associated with the Proposed Action is designated as “scenic” and “recreational.” This classification was designated in 1980, a year prior to the

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federal designation. Public Resources Code Section 5093.53[b] defines “scenic rivers” as being “those rivers or segments of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” “Recreational rivers” are defined as “those rivers or segments of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. There are no permits required for the Proposed Action specific to the state WSRA.

5.3.4 FEDERAL EXECUTIVE ORDERS

The project is required to comply with the following federal executive orders and implementing policies.

Executive Order 11990 for Wetlands

Executive Order 11990 requires federal agencies to prepare wetland assessments for federally funded projects located within or affecting wetlands. Agencies must avoid undertaking new construction in wetlands unless no practicable alternative is available and the proposed action includes all practicable measures to minimize effects to wetlands. The Proposed Action will affect a small area of jurisdictional wetlands (wetlands under the jurisdiction of the Corps). The loss of wetland habitat will be addressed through avoidance, habitat restoration within areas temporarily disturbed during construction, and habitat creation for riparian wetland permanently lost. Reclamation will continue to coordinate with the Corps regarding the Section 404 permit and potential mitigation measures.

Executive Order 11988 for Floodplain Management

Executive Order 11988 requires federal agencies to prepare floodplain assessments for projects located within or affecting floodplains. If an agency proposes an action within a floodplain, it must consider alternatives to avoid adverse effects and incompatible development of the floodplain. If the only practicable alternative involves siting in a floodplain, the agency must explain why the action is proposed in the floodplain and must minimize potential harm to or within the floodplain. As discussed in Section 3.4, “Water Resources,” the hydraulic information indicates that the Proposed Action would not constitute a significant encroachment on the base floodplain.

Executive Order 12898 for Environmental Justice

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health and environmental effects of federal programs, policies, and activities on minority and low-income populations. Federal agencies are required to provide opportunities for input in the NEPA process by affected communities and to evaluate significant and adverse effects of proposed federal actions on minority and low-income communities during the preparation of NEPA documents. The NEPA scoping process can be used to solicit information on the concerns of minority and low-income populations. If a proposed federal action will not result in significant adverse impacts on minority and low-income populations, the environmental document must describe how Executive Order 12898 was addressed during the NEPA process. Section 3.13 of the EA/DEIR contains a specific section on environmental justice, including details on federal responsibilities. The preliminary findings indicate that the Proposed Action will not have an adverse effect on minority and low-income populations.

Executive Order 13007 for Indian Sacred Sites on Federal Land

Executive Order 13007 provides that each federal agency with statutory or administrative responsibility for management of federal lands shall, to the extent practicable and as permitted by law, accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and shall avoid adversely affecting the physical integrity of such sacred sites. The potential for any such sites to occur within the boundary established for the project is discussed in Section 3.11. The preliminary findings indicate the Proposed Action will not have an adverse effect on Indian Sacred Sites on federal land.

Executive Order 12373 for State, Area-Wide, and Local Plan and Program Consistency

Agencies must consider the consistency of a proposed action with approved state and local plans and laws. In accordance with Executive Order 12372, this EA/DEIR has been prepared with input from the cooperating, responsible, and trustee agencies. Additionally, Trinity County policies that would affect or be affected by any of the alternatives are discussed in Chapter 3. During the public review period, the EA/DEIR will be circulated to the appropriate state and local entities to satisfy review and consultation requirements.

Executive Order 13112 (Invasive Species)

Executive Order 13112 requires federal agencies to use relevant programs and authorities to:

- prevent the introduction of invasive species;
- detect and control populations in a cost-effective and environmentally sound manner;
- provide for restoration of native species;
- promote public education on invasive species; and
- not authorize, fund or carry out actions to cause or promote the spread or introduction of invasive species.

Indian Trust Assets

The United States Government's trust responsibility for Indian trust assets requires federal agencies to take measures to protect and maintain trust assets. These responsibilities include taking reasonable actions to preserve and restore tribal resources. Indian trust assets are legal interests in property and rights held in trust by the United States for Indian tribes or individuals. This EA/DEIR contains a specific section on Tribal Trust (Section 3.10) that details federal responsibilities with regard to the Hoopa Valley and Yurok tribal resources. The preliminary findings indicate the Proposed Action will not have an adverse effect on Indian trust assets.

References

- Alabaster, J. S., and R. Lloyd. 1980. *Water Quality Criteria for Freshwater Fish*. Boston, Massachusetts: Buttersworth, Inc.
- Ashley, R. P., J. J. Rytuba, R. Rogers, B. B. Kotlyar, and D. Lawler. 2002. Preliminary Report on Mercury: Geochemistry of Placer Gold Dredge Tailings, Sediments, Bedrock, and Waters in the Clear Creek Restoration Area. Shasta County, California: U.S. Geological Service.
- Bass, R. E., A. I. Herson, and K. M. Bogdan. 1999. *CEQA Deskbook: A Step-by-Step Guide on How to Comply with the California Environmental Quality Act*. 2nd Edition. Point Arena, California: Solano Press Books.
- Berg, L., and T. G. Northcote. 1985. Changes in Territorial, Gill-Flaring, and Feeding Behavior in Juvenile Coho Salmon (*Oncorhynchus kisutch*) Following Short-Term Pulses of Suspended Sediment. *Canadian Journal of Fisheries and Aquatic Science*. 42:1410-1417.
- Bolt, Beranek, and Newman, Inc. 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Washington, D.C.: Prepared for the U.S. Environmental Protection Agency.
- Bradley, W. W. 1941. Quarterly Chapter of State Mineralogist's Report XXXVII. *California Journal of Mines and Geology* 37 (1).
- Brown, L. R., P. B. Moyle, and R. M. Yoshiyama. 1994. Historical Decline and Current Status of Coho Salmon in California. *North American Journal of Fisheries Management*. 14(2): 237-261.
- Brown-Buntin. 2002. Draft Noise Element of the General Plan, Trinity County, California. Prepared for the Trinity County Planning Department.
- Busby, P., R. Gustafson, R. Iwamoto, C. Mahnken, G. Matthews, J. Myers, M. Schiewe, T. Wainwright, R. Waples, J. Williams, P. Adams, G. Bryant, C. Wingert, and R. Reisenbichler. 1997. Status Review Update for West Coast Steelhead from Washington, Idaho, Oregon, and California. Seattle, Washington: National Marine Fisheries Service, Northwest Fisheries Science Center.
- California Air Resources Board. Air Quality Data Statistics for Trinity County, Weaverville Courthouse. 2002. Available from <http://www.arb.ca.gov/adam/welcome.html>.
- . 2005. Ambient Air Quality Standards, May 06, 2005. [Cited November 22, 2005.]. Available from <http://www.arb.ca.gov/aqs/aaqs2.pdf>.

- . 2005. PM10 Summary: Weaverville Courthouse 2005. [Cited November 23, 2005.]. Available from <http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrends.d2w/start>.
- California Department of Conservation, Division of Mines and Geology. 1999. Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps.
- California Department of Conservation, Office of Mine Reclamation. 2005. Surface Mining and Reclamations Act and Associated Regulations.
- California Department of Education. 2006. Douglas City Elementary School [web site]. [Cited March 7, 2006.]. Available from http://www.greatschools.net/modperl/browse_school/ca/7562.
- California Department of Fish and Game. 1986. Mammalian Species of Special Concern in California: Oregon Snowshoe Hare. Sacramento, California: California Department of Fish and Game.
- . 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. Sacramento, California: California Department of Fish and Game.
- . 2002. CWHR Version 8.0 Personal Computer Program. Sacramento, California: California Department of Fish and Game, California Interagency Wildlife Task Group.
- . 2002. Special Animals. California Department of Fish and Game, Natural Heritage Division, Natural Diversity Database.
- . 2002. Special Vascular Plants, Bryophytes, and Lichens List. California Department of Fish and Game, Natural Heritage Division, Natural Diversity Database.
- . 2002. State and Federally Listed Endangered, Threatened, and Rare Plants of California: Sacramento, California: California Department of Fish and Game, Habitat Conservation Division.
- . 2002. Status Review of California Coho Salmon North of San Francisco: Report to the California Fish and Game Commission. Sacramento, California: California Department of Fish and Game.
- . 2002. Trinity River Basin Salmon and Steelhead Monitoring Project Annual Report: 2000-2001 Season. California Department of Fish and Game, Northern California–North Coast Region.
- . 2003. California Salmonid Stream Habitat Restoration Manual. 3rd Edition. Part IX: Fish Passage Evaluation at Road Crossings.

-
- . 2003. September 2002 Klamath River Fish Kill: Preliminary Analysis of Contributing Factors. Redding, California: California Department of Fish and Game, Northern California–North Coast Region.
- . 2004. Recovery Strategy for California Coho Salmon. Report to the California Fish and Game Commission. Sacramento, California: California Department of Fish and Game, Native Anadromous Fish and Watershed Branch.
- . 2006. California Natural Diversity Database (CNDDB).
- California Department of Fish and Game and National Marine Fisheries Service. 2001. Final Report on Anadromous Salmonid Fish Hatcheries in California. Long Beach, California: Joint Hatchery Review Committee.
- California Department of Parks and Recreation. 1976. California Inventory of Historic Resources.
- . 1979. California Historical Landmarks.
- California Department of Transportation. 2000. Historic Property Survey Report, Request for Determination of Eligibility, and Finding of Effect for the Proposed Oregon Mountain Curve Correction Project, Trinity County, California. Redding, California: California Department of Transportation.
- California Department of Water Resources. 1979. Trinity River Recreation Access: Prepared for the U.S. Department of the Interior by the California Department of Water Resources, Northern District.
- California Employment Development Department. 1994. Civilian Labor Force, Employment and Unemployment.
- California Environmental Protection Agency. 2005. Title 27 Division 1: General Functions and Responsibilities; Subdivision 4: State Delegation; Chapter 1, Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, November 19, 2003. [Cited December 1, 2005.]. Available from <http://www.calepa.ca.gov/publications/Title27/>.
- California Native Plant Society. 2001. *Inventory of Rare and Endangered Vascular Plants of California*. Edited by D. P. Tibor. 6th Edition. Sacramento, California: California Native Plant Society.
- Campbell, L. 2005. *Encyclopedia of North American Indians - Hupa*. Houghton Mifflin Company 1996. [Cited December 16, 2005.]. Available from http://college.hmco.com/history/readerscomp/naind/html/na_016100_hupa.htm.

- Cedarholm, C. J., L. M. Reid, and E. O. Salo. 1981. Cumulative Effects of Logging Road Sediment on Salmonid Populations of the Clearwater River, Jefferson County, Washington.: Proceedings of Conference on Salmon Spawning Gravel: A Renewable Resource in the Pacific Northwest? (Report No. 19.) Pullman, Washington: Washington State University, Water Research Center.
- Center for Economic Development. 2001. Trinity County 2001: Economic and Demographic Profile. Chico, California: California State University, Chico, Chico Research Foundation.
- . 2004. Trinity County 2004: Economic and Demographic Profile. California State University, Chico, Chico Research Foundation.
- CH2M Hill. 2000. Appendix B of the Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Report: Prepared for U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Hoopa Valley Tribe, and Trinity County.
- Clark, W. B. 1970. Gold Districts of California. In *California Division of Mines and Geology Bulletin*. San Francisco, California.
- Consulting Engineers and Land Surveyors of California (CELSOC). 2005. California Environmental Quality Act: CEQA Guidelines. Sacramento, California.
- Cordone, A. J. and D. W. Kelley. 1961. The Influences of Inorganic Sediment on Aquatic Life of Streams. *California Fish and Game*. 47:189-228.
- Craig, D., and P. L. Williams. 1998. Willow Flycatcher (*Empidonax traillii*). In *The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-Associated Birds in California*. California Partners in Flight.
- Craig, S. 1992. Letter to Eric Ritter dated March 27, 1992 from the Acting State Historic Preservation Officer regarding the Union Hill Mine/Douglas City Timber Sale.
- Crawford, J. J. 1894. Twelfth Report (Second Biennial) of the State Mineralogist for the Two Years Ending September 15, 1894. Sacramento, California: California State Mining Bureau.
- . 1896. Thirteenth Report (Third Biennial) of the State Mineralogist for the Two Years Ending September 15, 1896. Sacramento, California: California State Mining Bureau.
- Deibel, R. H. 1988. The Response of Steelhead Trout and Physical Habitat Variables to Stream Improvement Structures Placed in Browns Creek, California. M.S. Thesis, Humboldt State University, Arcata, California.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station.

- Federal Emergency Management Agency. 1996. Flood Insurance Study: Trinity County, California, and Incorporated Areas.
- Federal Highway Administration. 1983. Visual Impact Assessment for Highway Projects. Washington, D.C.
- Gallagher, S. P. 1999. Experimental Comparisons of Fish Habitat and Fish Use between Channel Rehabilitation Sites and the Vegetation Encroached Channel of the Trinity River. Arcata, California: U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office.
- Glase, J. 1994. Monitoring Juvenile Salmon and Steelhead Outmigrants Produced in the Upper Trinity River, Northern California: 1991-1993 Progress Report. U.S. Fish and Wildlife Service, Trinity River Restoration Program.
- Good, T. P., R. S. Waples, and P. Adams. 2005. Updated Status of Federally Listed ESUs of West Coast Salmon and Steelhead. (U.S. Department of Commerce, NOAA-Fisheries Tech. Memo. NMFS-NWFSC-66.)
- Goodyear, H. 2006. Interview with Hal Goodyear, April 17, 2006.
- Gudde, E. G. 1975. *California Gold Camps*. Berkeley, California: University of California Press.
- Hagans, D. K., W. E. Weaver, and M. A. Madej. 1986. Long Term On-Site and Off-Site Effects of Logging and Erosion in the Redwood Creek Basin, Northern California.: In: Papers Presented at the American Geophysical Union Meeting on Cumulative Effects (December 1985). (National Council on Air and Streams, Technical Bulletin No. 490.)
- Hampton, M. 1988. Development of Habitat Preference Criteria for Anadromous Salmonids of the Trinity River. Sacramento, California: U.S. Fish and Wildlife Service, Division of Ecological Services.
- Hassler, T. J. 1987. Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Southwest): Coho Salmon. (U.S. Fish and Wildlife Service Biological Report 82(11.70)).
- Herrera, P. A. 2006. Trinity River Restoration Program: Bird Monitoring, Indian Creek Environmental Study Limit Surveys, 2003-2005. Draft. Arcata, California: USDA Forest Service, Redwood Sciences Laboratory.
- Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, California: California Department of Fish and Game, Natural Heritage Division,
- Hoover, M. B., H. E. Rensch, and E. G. Rensch. 1964. *Historic Spots in California*. Stanford, California: Stanford University Press. Revised by Ruth Teiser.

- Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. Rancho Cordova, California: California Department of Fish and Game, Inland Fisheries Division.
- Jones, A. G., ed. 1981. *Trinity County Historical Sites*. Weaverville, California.
- Kelly, J. L., and H. J. McAleer. 1986. An Archaeological Survey, Assessment, and Recommendations for the Ohio Flat Mining District (CA-TRI-843), Trinity County, California. Redding, California: U.S. Department of the Interior.
- Lawrence and Welch. 2005. Archaeological Investigation of the Canyon Creek Channel Rehabilitation Project Area for the Trinity River Restoration Project, Trinity County, California. U.S. Bureau of Reclamation, Mid-Pacific Region.
- Lawrence, Nickels, and Welch. 2006. Archaeological Investigations of the Indian Creek Channel Rehabilitation Project Area for the Trinity River Restoration Project, Trinity County, California Bureau of Reclamation, Mid-Pacific Region.
- Leidy, R. A., and G. R. Leidy. 1984. *Life Stage Periodicities of Anadromous Salmonids in the Klamath River Basin, Northwestern California*.
- Lind, A. J., H. H. Welsh Jr., and R. A. Wilson. 1996. The Effects of a Dam on Breeding Habitat and Egg Survival of the Foothill Yellow-Legged Frog (*Rana boylei*). *Herpetological Review*. 57 (5):62-67.
- LSC Transportation Consultants, Inc. 2001. Trinity County 2001 Regional Transportation Plan. Prepared for the Trinity County Transportation Commission.
- . 2005. Trinity County 2005 Regional Transportation Plan: Technical Memorandum 1. Prepared for the Trinity County Transportation Commission.
- May, J. T., R. L. Hothem, W. G. Duffy, C. N. Alpers, and J. J. Rytuba. 2002. Mercury Bioaccumulation from Historical Mining in the Trinity River Watershed, California. Paper read at Society of Environmental Toxicology and Chemistry National Meeting, November 16-20, 2002, Salt Lake City, Utah.
- Mayer, K. E., and W. F. Laudenslayer Jr., eds. 1988. *A Guide to Wildlife Habitats of California*. Sacramento, California: California Department of Forestry and Fire Protection.
- McBain and Trush. 1997. Trinity River Maintenance Flow Study Final Report. Arcata, California.
- . 2002. Estimation of 50- and 100-Year Tributary Accretion Floods: Lewiston Dam to Treadwell Bridge, Trinity River, California. Arcata, California.
- . 2004. Trinity River Hocker Flat Bank Rehabilitation Project: Floodplain Inundation Flow Determination Using 1.5-Year Flood as Inundation Index. Unpublished.

- McCrory, P. A. 1996. Evaluations of Fault Hazards, Northern Coastal California: U.S. Geological Survey.
- McFarland, J. 2003. Survey Results for Survey and Manage Nonvascular Plants and Fungi for Rehabilitation Sites on the Trinity River. U.S. Bureau of Land Management.
- Medin, A., and R. Allen. 1998. A Cultural Resources Inventory of Weaverville Area Units of the Proposed SPI-BLM Land Exchange. Sacramento, California: Prepared for Sierra Pacific Industries by KEA Environmental, Incorporated.
- Michney, F., and R. Deibel. 1986. Sacramento River, Chico Landing to Red Bluff Project: 1985 Juvenile Salmonid Study. Sacramento, California: U.S. Fish and Wildlife Service, Division of Ecological Services. Prepared for U.S. Army Corps of Engineers.
- Michney, F., and M. Hampton. 1984. Sacramento River, Chico Landing to Red Bluff Project: 1984 Juvenile Salmonid Study. Sacramento, California: U.S. Fish and Wildlife Service, Division of Ecological Services. Prepared for U.S. Army Corps of Engineers.
- Miller, S. L., and P. A. Herrera. 2005. Trinity River Restoration Program Bird Monitoring and Statistical Report. Prepared for the Trinity River Restoration Program. Arcata, California: Redwood Sciences Laboratory.
- Miller, S. L., C. G. Ralph, and P. A. Herrera. 2003. Monitoring Riparian and Aquatic Birds along the Mainstem of the Trinity River. (Trinity River Restoration Program Biannual Report 2003.) Arcata, California: USDA Forest Service, Redwood Sciences Laboratory.
- Moffett, J. W., and S. H. Smith. 1950. Biological Investigations of the Fishery Resources of the Trinity River, California. U.S. Fish and Wildlife Service.
- Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayake. 1995. Fish Species of Special Concern in California. 2nd Edition. Rancho Cordova, California: California Department of Fish and Game, Inland Fisheries Division.
- Moyle, P. B. 2002. *Inland Fishes of California*. Berkeley, California: University of California Press.
- Myers, J. M., R. G. Kope, G. J. Bryant, D. Teel, L. J. Lierheimer, T. C. Wainwright, W. S. Grant, F. W. Waknitz, K. Neeley, S. T. Lindley, and R. S. Waples. 1998. Status Review of Chinook Salmon from Washington, Idaho, Oregon, and California. (NOAA Technical Memorandum NMFS-NWFSC-35.)
- National Cooperative Highway Research Program. 1998. National Cooperative Highway Research Program Guidelines for Work Zone Traffic Control Devices.

- National Marine Fisheries Service. 1997. Endangered and Threatened Species: Threatened Status for Southern Oregon/Northern California Coasts Evolutionarily Significant Unit of Coho Salmon. *Federal Register* 62 (87):24588-24609.
- . 2001. Biological Review Team Reevaluation of Klamath Mountains Province Steelhead.
- . 2001. Guidelines for Salmonid Passage at Stream Crossings. National Marine Fisheries Service, Southwest Region.
- Nicol, J. M. 1938. Report on the Various Gold Placer Mine Properties in the Weaverville District, Trinity County, California, USA: Owned by Mrs. Berne E. Bonneau, Long Island, New York for Mr. Frank T. Van Atta, GPA, Mill Valley, California.
- North Coast Regional Water Quality Control Board. 1989. Water Quality Control Plan for the North Coast Region (Basin Plan).
- . 2001. Water Quality Control Plan for the North Coast Region (Basin Plan), as Amended 28 June 2001.
- North Coast Unified Air Quality Management District. 1992. North Coast Air Quality Facts. Eureka, California.
- . 1995. Particulate Matter (PM₁₀) Attainment Plan: Draft Report. Eureka, California.
- . 1997. Summary of Monitoring Data in the North Coast Unified Air Quality Management District. Eureka, California.
- . 1998. North Coast Air Quality Facts. Eureka, California.
- . 1998. Regulation 1 Air Quality Control Rules Adopted by the Basin Control Council of the California North Coast Air Basin. Eureka, California.
- . 2005. Rules and Regulations. Eureka, California.
- North State Resources, Inc. 2003. Northern Spotted Owl Habitat Assessment for the Trinity River Restoration Project. Redding, California.
- . 2005. Indian Creek Site Delineation of Waters of the United States, including Wetlands. Redding, California.
- O'Brien, J. C. 1965. Gold Dredging in Shasta, Siskiyou and Trinity Counties. Report of the State Mineralogist. Sacramento, California: California Division of Mines and Geology.
- Office of Environmental Health Hazard Assessment. 2005. Interim Fish Consumption Notification for Trinity River Watershed (Trinity County): Available at: http://www.oehha.ca.gov/fish/so_cal/trinpress.html.

- Office of Protected Resources. 2001. Coho Salmon. [web site]. [Cited 2001.]. NOAA-National Marine Fisheries Service, March 6 2001.
- Pacific Fisheries Management Council. 2000. Amendment 14 to the Pacific Coast Salmon Plan (1997), Appendix A. Portland, Oregon: Pacific Fisheries Management Council.
- Peterson, M. D., W Bryant, A., C. H. Cramer, T. Cao, M. Reichle, A. D. Frankel, J. J. Lienkaemper, P. A. McCrory, and D. P. Schwartz. 1996. Probabilistic Seismic Hazard Assessment for the State of California: California Department of Conservation, Division of Mines and Geology, and U.S. Geological Survey.
- Pevar, S. L. 1992. The Rights of Indians and Tribes: The Basic ACLU Guide to Indian and Tribal Rights. 2nd Edition. Southern Illinois University Press.
- Powers, S. 1976. Tribes of California. Contributions to North American Ethnology, Volume III. Department of Interior, U.S. Geographical and Geological Survey of the Rocky Mountain Region, U.S. Government Printing Office, 1877. Reprinted by University of California Press, Berkeley, California.
- Reese, D. A., and H. H. Welsh. 1998. Habitat Use by Western Pond Turtles in Northern California: The Effects of Damming and Related Alterations. PhD Dissertation, University of California, Berkeley, Berkeley, California.
- Ritter, E. W. 1990. A Class III Archaeological Inventory of the Union Hill Timber Sale, Trinity County, California. Redding, California: U.S. Bureau of Land Management, Redding Field Office.
- Robison, E. G., A. Mirati, and M. Allen. 1999. Oregon Road/Stream Crossing Restoration Guide: Spring 1999: Oregon Department of Fish and Wildlife.
- Rytuba, J. J., R. P. Ashley, and B. Gutermuth. 2005. Potential Availability of Soluble and Particulate Mercury Species from Sediment and Placer Tailings: Expected Environmental Effects Resulting from the Hocker Flat River Rehabilitation Site, Trinity County, California—Preliminary Report. U.S. Department of the Interior and U.S. Geological Survey.
- Sandercock, F. K. 1991. Life History of Coho Salmon (*Oncorhynchus kisutch*). Edited by C. G. Margolis. Pacific Salmon Life Histories. Vancouver, Canada; University of British Columbia Press.
- Saroff, S. T. 1990. Proceedings of the Onondaga Lake Remediation Conference. Bolton Landing, New York: New York State Department of Law and New York State Department of Environmental Conservation.
- Sawyer, J. O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. Sacramento: California Native Plant Society.

- Silver, S.. 1978. Chimariko. In *Handbook of North American Indians*, edited by R. F. Heizer. Washington, D.C.: Smithsonian Institution.
- Sincero, A. P., and G. A. Sincero. 1996. Environmental Engineering: A Design Approach. Prentice-Hall, Inc. As cited in Draft Anderson-Cottonwood Irrigation District Fish Passage Improvement Project Proposed FONSI/EA/Initial Study (1999).
- Sinnen, W. 2002. Annual Report: Trinity River Basin Salmon and Steelhead Monitoring Project, 2001–2002 Season. Task 3: Survival and Spawner Escapements Made by Coho Salmon Produced at the Trinity River Hatchery. Arcata, California: California Department of Fish and Game, Northern California Coast District.
- Sinnen, W., Currier, M., and S. Borok. 2005. Annual Report: Trinity River Basin Salmon and Steelhead Monitoring Project 2003-2004 Season. Redding, California: California Department of Fish and Game, North Coast Region.
- Skinner, M. W., and B. M. Pavlik, eds. 1994. *Inventory of Rare and Endangered Vascular Plants of California*. 5th Edition. Sacramento, California: Griffin Printing Company.
- Small, A. 1994. *California Birds: Their Status and Distribution*. IBIS Publishing Co.
- Smith, J., and K. Berg. 1988. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. Special Publication No. 1, 4th Edition.
- Social Science Data Analysis Network. 2006. CensusScope [web site]. University of Michigan 2006. [Cited March 3, 2006.]. Available from <http://www.censusscope.org/index.html>.
- Sommer, T., B. Harrell, M. Nobriga, R. Brown, P. Moyle, W. Kimmerer, and L. Schemel. 2001. California's Yolo Bypass: Evidence That Flood Control Can Be Compatible with Fisheries, Wetlands, Wildlife, and Agriculture. *Fisheries: American Fisheries Society*. 26. (8): 6-16.
- State Mining and Geology Board. 2004. State Mining and Geology Board Executive Officer's Report.
- State of California, Department of Finance. 2006. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2001-2006, with 2000 Benchmark. Sacramento, California.
- Thelander, C. G., and M. Crabtree. 1994. *A Guide to California's Endangered Natural Resources: Wildlife*. Santa Cruz, California: BioSystems Books.
- Trinity County. 1974. Noise Element of the County of Trinity General Plan.
- . 1987. Douglas City Community Plan.

-
- . 1992. Trinity County Fire Safe Ordinance. Vol. Ordinance No. 1072, County Code Section 8.60.010-8.6.020.
- . 2000. Trinity County Floodplain Management Ordinance. Vol. Ordinance No. 315-698.
- . 2001. Trinity County General Plan.
- Trinity County Historical Society. 1964. Early Days of Weaverville and Some of Hayfork: An Interview with Curt Bennett of Weaverville, August 21, 1964. Weaverville, California: Trinity County Historical Society.
- . 1974. Trinity 1974 Official Yearbook: Featuring a Picture Story of the Bucket Line Dredges of Trinity County. A Picture Gallery, and Other Stories of Interest. Weaverville, California: Trinity County Historical Society.
- . 2001. Trinity 2001 Official Yearbook: The First Year of the New Millennium. Weaverville, California: Trinity County Historical Society.
- Trinity County Planning Department. 2002. Major Evacuation Routes, Trinity County General Plan Safety Element. Weaverville, California: Trinity County Planning Department.
- . 2002a. Fire Start Locations by Cause, Trinity County General Plan Safety Element. Weaverville, California: Trinity County Planning Department.
- . 2002b. Trinity County General Plan Safety Element.
- Trinity County Records Office. Book 1. Weaverville, California: Trinity County Courthouse.
- Trinity River Restoration Program. 2004. Hocker Flat Rehabilitation Site: Trinity River Mile 79 to 79.1. Weaverville, California: U.S. Department of the Interior, U.S. Bureau of Reclamation.
- U.S. Army Corps of Engineers. 1976. Flood Plain Information, Trinity River, Lewiston Lake to Junction City, Trinity County, California.
- U.S. Bureau of Land Management. 1983. Trinity River Recreation Area Management Plan.
- . 1993. Redding Resource Management Plan and Record of Decision. Redding, California: U.S. Bureau of Land Management.
- . 2005. Visual Resource Contrast Rating (Manual 8461) [web site], March 25, 2003. [Cited November 2005.] Available from <http://www.blm.gov/nstc/VRM/8410.html>.
- . 2005. Visual Resource Inventory (Manual H-8410-1), March 25, 2003. [Cited November 2005.] Available from <http://www.blm.gov/nstc/VRM/8410.html>.

- . 2005. Special-Status Plants of the Redding Field Office. Bureau of Land Management, January 4, 2005. [Cited November 2, 2005.] Available from <http://www.ca.blm.gov/pa/ssp/fo/redssp.htm>.
- U.S. Bureau of Reclamation. 2003. Trinity River Restoration Program: Trinity River Mechanical Channel Rehabilitation Pilot Project, Delineation of Waters of the U.S., including Wetlands. Trinity River Restoration Program.
- . 2004. Cultural Resources Report: Hocker Flat Survey. Sacramento, California.
- . 2005. Central Valley Project Operations Criteria and Plan. U.S. Bureau of Reclamation, Mid-Pacific Region 1992. [Cited December 2, 2005.] Available from <http://www.eh.doe.gov/nepa/eis/eis-0232/0232TOC.htm>.
- U.S. Bureau of Reclamation and California Department of Water Resources. 2006. Canyon Creek Suite of Rehabilitation Sites: Trinity River Mile 73 to 78 Environmental Assessment/Environmental Impact Report. Weaverville, California: Trinity River Restoration Program.
- U.S. Bureau of Reclamation and Regional Water Quality Control Board, North Coast Region. 2004. Hocker Flat Rehabilitation Site: Trinity River Mile 78 to 79.1 Environmental Assessment/Environmental Impact Report. Weaverville, California: Trinity River Restoration Program.
- U.S. Bureau of Reclamation and Trinity County. 2003. Trinity River Bridges Project Environmental Assessment/Environmental Impact Report. Weaverville, California: Trinity River Restoration Program.
- U.S. Census Bureau. 2005. 2004 Population Estimates (Geographies Ranked by Estimate). U.S. Census Bureau. [Cited October 19, 2005.] Available from http://factfinder.census.gov/servlet/GCTTable?_bm=y&-geo_id=04000US06&-box_head_nbr=GCT-T1-R&-ds_name=PEP_2004_EST&-lang=en&-format=ST-2S&-sse=on.
- . 2005. Table 19. California - Race and Hispanic Origin: 1850 to 1990. September 13, 2002. [Cited October 24 2005.] Available from <http://www.census.gov/population/documentation/twps0056/tab19.xls>.
- . 2005. 2004 American Community Survey Data Profile Highlights: California. [Cited October 24 2005.] Available from http://factfinder.census.gov/servlet/ACSSAFFacts?_event=&-geo_id=04000US06&-geo_Context=01000US%7C04000US06&-street=&-county=&-cityTown=&-state=04000US06&-zip=&-lang=en&-sse=on&-ActiveGeoDiv=&-useEV=&-pctxt=fph&-pgsl=040.
- . 2005. Population Estimates. June 29 2005. [Cited October 26 2005.] Available from <http://www.census.gov/popest/estimates.php>.

- . 2006. American Fact Finder [web site]. [Cited March 7, 2006.] Available from http://factfinder.census.gov/servlet/SAFFFacts?_event=ChangeGeoContext&geo_id=86000US96024&_geoContext=&_street=&_county=&_cityTown=&_state=04000US06&_zip=96024&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qr_name=null®=null%3Anull&_keyword=&_industry=.
- U.S. Census Bureau, Population Division. 2005. Table 4: Annual Estimates of the Population by Race Alone and Hispanic or Latino Origin for the United States and States: July 1, 2004. (SC-EST2004-04.) August 11, 2005. [Cited October 24, 2005.] Available from <http://www.census.gov/popest/states/asrh/tables/SC-EST2004-04.xls>.
- U.S. Department of Agriculture. 1981. Shasta-Trinity National Forests Order 3 Soil Survey: United States Department of Agriculture, Forest Service, in cooperation with the University of California Agricultural Experiment Station.
- . 1998. Soil Survey of Trinity County, California, Weaverville Area.
- USDA Forest Service. 1995. Shasta-Trinity National Forests Land and Resource Management Plan. San Francisco, California: USDA Forest Service, Pacific Southwest Region.
- U.S. Department of Agriculture and Department of the Interior. 1994. Record of Decision and Standards and Guidelines for Amendments to Forest Service and Bureau of Land Management Lead Agency. Management Planning Documents within the Range of the Northern Spotted Owl.
- . 2001. Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and Other Mitigation Measures, Standards, and Guidelines.
- . 2003. Implementation of Annual Species Review for Survey and Manage Species. [website] 2002. [Cited March 2003.] Available from http://www.or.blm.gov/surveyandmanage/Annual_Species_Review/2003/IM-OR-2003-050.htm.
- . 2004. Record of Decision to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines.
- U.S. Department of the Interior. 1995. Memorandum on Klamath Project Operation Plan (KPOP) regarding Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project. U.S. Department of the Interior, Office of the Solicitor.
- . 2000. Record of Decision. Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report.
- . 2004. Long-Term Central Valley Project Operations Plan (CVP-OCAP). Sacramento, California: U.S. Bureau of Reclamation, Mid-Pacific Region.

- U.S. Environmental Protection Agency. 2001. Trinity River Total Maximum Daily Load for Sediment. San Francisco, California.
- . 2004. National Recommended Water Quality Criteria. Office of Water and Office of Science and Technology.
- U.S. Fish and Wildlife Service. 1980. Environmental Impact Statement on the Management of River Flows to Mitigate the Loss of the Anadromous Fishery of the Trinity River, California. Volumes I and II. Sacramento, California: U.S. Fish and Wildlife Service, Division of Ecological Services.
- . 1980. Trinity River Instream Flow Study, Lewiston Dam to North Fork, June/July 1978. Sacramento, California.
- . 1983. Final Environmental Impact Statement: Trinity River Basin Fish and Wildlife Management Program. (INT/FES 83-53.) Sacramento, California: U.S. Department of the Interior, Fish and Wildlife Service.
- . 1986. Pacific Bald Eagle Recovery Plan. Portland, Oregon: U.S. Fish and Wildlife Service.
- . 1994. Endangered and Threatened Wildlife and Plants: Critical Habitat Determination for the Delta Smelt. *Federal Register*.
- . 1994. Rehabilitation of the Mainstem Trinity River: Background Report. Weaverville, California: Trinity River Fishery Resource Office.
- . 2003. Klamath River Fish Die-off, September 2002: Causative Factors of Mortality. (Report No. AFWO-02-03.) U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office.
- . 2003. Klamath River Fish Die-off, September 2002: Report on Estimate of Mortality. (Report No. AFWO-01-03.) U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office.
- U.S. Fish and Wildlife Service and Hoopa Valley Tribe. 1999. Trinity River Flow Evaluation Final Report.
- U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, U.S. Bureau of Land Management, Hoopa Valley Tribe, California State Historical Preservation Officer, and Advisory Council on Historic Fishery Preservation. 2000. Programmatic Agreement regarding Implementation of the Trinity River Fishery Restoration.
- U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Hoopa Valley Tribe, and Trinity County. 1999. Draft Environmental Impact Statement/ Environmental Impact Report for the Trinity River Mainstem Fishery Restoration.

- . 2000. Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report.
- U.S. Office of Management and Budget. 1987. Standard Industrial Classification Manual: Executive Office of the President, U.S. Office of Management and Budget.
- U.S. Soil Conservation Service. 1978. Procedure to Establish Priorities in Landscape Architecture. Washington, D.C.
- United States Geologic Survey. 1988. *Dedrick* 7.5 minute quadrangle. United States Geologic Survey.
- Unknown. 1900. Map of the Properties of Heurtevant on the Trinity River circa 1900. Map on file at the Trinity County Historical Society, Weaverville, California.
- USDA Forest Service. 1995. Shasta-Trinity National Forests Land and Resource Management Plan. San Francisco, California: USDA Forest Service, Pacific Southwest Region.
- USDA Forest Service and U.S. Bureau of Land Management. 2002. 2001 Annual Species Review.
- . 2003. Survey and Manage Mollusc Species: Survey of the Mainstem Trinity River from Lewiston Dam to the North Fork Trinity (River Mile 110 to 72) in Spring 2002. Hayfork, California: Watershed Research and Training Center.
- Wee, S. R., and J. G. Costello. 2001. Historic Roads, Mine Tailings, and Water Systems in Lower Oregon Gulch: Supplemental Archaeological Survey Report, Historic Study Report, and Historic Resources Evaluation for a Portion of State Route 299 Near Weaverville, Trinity County, California. Redding, California: Far Western Research Group, Incorporated.
- Welsh, H., D. Ashton, and J. Bettaso. 2003. Pre-Construction Monitoring of Herpetofauna at Proposed Restoration Sites along the Mainstem Trinity River: 2003 Biannual Report. Prepared for the Trinity River Restoration Program. Arcata, California: USDA Forest Service, Pacific Southwest Region, Redwood Sciences Laboratory, and U.S. Department of the Interior, Fish and Wildlife Service.
- . 2003. Riparian Herpetofauna of the Mainstem Trinity River. Comparison of 1990 and 2003 TCS Sampling Results: 2003 Preliminary Report. Prepared for the Trinity River Restoration Program.
- West, G. J., and P. Welch. 2004. Cultural Resources Report. Sacramento, California: U.S. Bureau of Reclamation, Mid-Pacific Region.

Western Regional Climate Center. 2005. Trinity River Hatchery, California (049026) Climate Summary: 8/1/74 to 3/31/2005 [web site] 2005. [Cited 2005.] Available from www.wrcc.dri.edu/summary/climsmnca.html.

———. 2006. [Cited March 29, 2006.] Available from <http://www.wrcc.dri.edu/NEWWEB.html>.

Wilson, R. A. 1995. Trinity River Willow Flycatcher Surveys, 1990-1992, Weaverville, California: Final report submitted to Wildlife Task Group, Trinity River Restoration Project, U.S. Department of the Interior, Fish and Wildlife Service, and U.S. Bureau of Reclamation.

Yurok Tribal Fisheries Program. 2002. Data submitted 12 April 2002 by Dave Hellemeier, Yurok Fisheries Program Manager, to the National Marine Fisheries Service.

Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White, eds. 1990a. *California's Wildlife. Volume II: Birds*. Sacramento, California: California Department of Fish and Game.

———, eds. 1990b. *California's Wildlife. Volume III: Mammals*. Sacramento, California: California Department of Fish and Game.

———, eds. 1990c. *California's Wildlife. Volume I: Amphibians and Reptiles*. Sacramento, California: California Department of Fish and Game.

Chapter 7

List of Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
5C Program	Five Counties Salmonid Conservation Program
ACHP	Advisory Council on Historic Preservation
ADT	average daily traffic
AEAM	Adaptive Environmental Assessment and Management
af	acre-feet
afa	acre feet annually
a.m.	morning
APE	Area of Potential Effect
BA	Biological Assessment
Basin Plan	Water Quality Control Plan for the North Coast Region, as amended June 28, 2001
BA/EFHA	Biological Assessment/Essential Fish Habitat Assessment
BEA	U.S. Bureau of Economic Analysis
BFE	base flood elevation
BIA	U.S. Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDF	California Department of Forestry and Fire Protection
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CED	Center for Economic Development
Census	U.S. Bureau of the Census
CEQ	President's Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second

CHP	California Highway Patrol
CLOMR	conditional letter of map revision
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
Commission	California State Fish and Game Commission
Corps	U.S. Army Corps of Engineers
County	Trinity County
CRA	California Resources Agency
CRHR	California Register of Historic Resources
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
d ₅₀	mean diameter of channel bed material
dB	logarithmic decibel
dba	“A-weighted” decibel scale
DEIS	draft environmental statement
DOI	U.S. Department of the Interior
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Environmental Assessment
EA/DEIR	Environmental Assessment/Draft Environmental Impact Report
EDD	California Employment Development Department
EFH	essential fish habitat
EFHA	Essential Fish Habitat Assessment
e.g.	for example
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
et al.	and others
et seq.	the following ones
FDA	Food and Drug Administration
FEIS/EIR	Final Environmental Impact Statement/Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHO	Flood Hazard Overlay
FIRM	Flood Insurance Rate Maps
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
FR	Federal Register

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FY	fiscal year
GIS	geographic information system
H ₂ S	hydrogen sulfide
HEC-RAS	Hydraulic Engineering Center River Analysis System
Hg	mercury
HVT	Hoopa Valley Tribe
i.e.	that is
ISMS	Interagency Species Management System
JCVFD	Junction City Volunteer Fire Department
KFMC	Klamath Fishery Management Council
kg	kilogram
KMP	Klamath Mountains Province
KOP	key observation point
L _{dn}	day-night average sound level
L _{eq}	equivalent noise levels
LOMP	letter of map revision
LRMP	Land and Resource Management Plan
LWD	large woody debris
m	meter
MBTA	Migratory Bird Treaty Act
maf	million acre-feet
MCE	maximum credible earthquake
MCL	maximum contaminant level
MDBM	Mount Diablo Base and Meridian
mg	milligram
ml	milliliters
MMRP	Mitigation Monitoring and Reporting Program
MOU	memorandum of understanding
mph	miles per hour
MSA	Magnuson-Stevens Fishery Conservation and Management Act
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NAD	North American Datum
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin
NCRWQCB	North Coast Regional Water Quality Control Board

NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service (now NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO _x	nitrogen oxide gases
NO ₂	nitrogen dioxide
NOD	Notice of Determination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	North State Resources, Inc.
NTU	nephelometric turbidity unit
O ₃	ozone
OEHHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
ORVs	Outstandingly Remarkable Values
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
Pb	Lead
PFMC	Pacific Fishery Management Council
pga	peak ground acceleration
p.m.	night
PM _{2.5}	fine particulate matter (particulate matter less than 2.5 microns in aerodynamic diameter)
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter
ppb	parts per billion
ppm	parts per million
Q	flow rate (typically expressed in cfs)
Q ₅₀	50-year flood flow
Q ₁₀₀	base or 100-year flood flow
Q _{max}	maximum unobstructed flow
Q _{MCR}	maximum controlled-flow release
Q ₁₉₉₇	estimated flow during 1/1/97
ORV	outstandingly remarkable values
PA	Programmatic Agreement
PFMC	Pacific Fishery Management Council
PL	Public Law
RCRA	Resource Conservation and Recovery Act
Reclamation	U.S. Bureau of Reclamation

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REIS	Regional Economic Information System
Regional Water Board	North Coast Regional Water Quality Control Board
RM	River Mile
RMP	Resource Management Plan
ROD	Record of Decision
ROW	right-of-way
RPM	reasonable and prudent measures
RSL	Redwood Science Laboratory
RVD	Recreational Visitor Day
RWQCB	Regional Water Quality Control Board

SCH	State Clearinghouse
Sec	section
SEIS	Supplemental Environmental Impact Statement
SHPO	California State Historic Preservation Officer
SLC	California State Lands Commission
SO ₂	sulfur dioxide
SMARA	Surface Mining and Reclamation Act
SONCC	Southern Oregon/Northern California Coasts
SR	State Route
SRA	shaded riverine aquatic
State Water Board	State Water Resources Control Board
STNF	Shasta-Trinity National Forest
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

TCLP	Toxicity Characteristic Leaching Procedure
TCRCD	Trinity County Resource Conservation District
TCSD	Trinity County Sheriff's Department
TCWMC	Trinity County Weed Management Cooperative
TMC	Trinity Management Council
TMDL	Total Maximum Daily Load
TRD	Trinity River Diversion
TRFE	Trinity River Flow Evaluation
TRFES	Trinity River Flow Evaluation Study
TRMFR	Trinity River Mainstem Fishery Restoration
TRRP	Trinity River Restoration Program
TRSSH	Trinity River Salmon and Steelhead Hatchery

USC	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

VAU	visual assessment unit
VRM	Visual Resource Management

WCB	California Wildlife Conservation Board
WDRs	Waste Discharge Requirements
WMA	Weed Management Area
WQC	Water Quality Certification
WSE	water-surface elevation
WSRA	Wild and Scenic Rivers Act

Chapter 8

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Distribution List

9.1 *Federal Agencies*

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Department of Interior, Bureau of Land Management
- National Marine Fisheries Service
- U.S. Forest Service
- Natural Resource Conservation Service

9.2 *State Agencies*

- California Department of Fish and Game
- California Regional Water Quality Control Board, North Coast Region
- California State Lands Commission
- California Department of Transportation
- California Department of Water Resources
- California Department of Forestry

9.3 *Local Agencies*

- North Coast Unified Air Quality Management District
- Trinity County Planning Department

9.4 *Other Agencies, Organizations, and Individuals*

- Hoopa Valley Tribe
- Yurok Tribe